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BALTIMORE, JANUARY 20, 1910.

RUFUS N. RHODES.

Southern journalism has had a great loss in the death of Rufus N. Rhodes, the founder of the Birmingham *News*, and a man who, in twenty-five years of devotion to the higher ideals of newspapering and of personal interest in the welfare of Birmingham, of Alabama and of the whole South, made his paper one of the most vigorous and influential in its section. He reared, in the Birmingham *News*, his own monument, a monument inspiring to other men of rare mental gifts, personal integrity and courage.

DESIRABLE.

Reported reflection by a lawyer member of the Charter Commission of Baltimore upon certain financial interests of the city suggests that if charter commissions of Baltimore had fewer lawyers and more business men in their membership, it would not be necessary to revise the charter of Baltimore every ten years, and, in the meantime, for the city to be loaded down with a lot of lawyers employed to determine what the charter means or does not mean.

COTTON IN EXPORTS.

The value of exports of merchandise from the United States during the past calendar year was \$1,727,383,128, a decrease of \$25,452,319 under 1908. Among the leading articles exported cotton still looms as of importance in reducing the general decrease. The value of breadstuffs decreased from \$186,832,204 to \$129,191,963, or by \$57,640,241; of meat and dairy products, from \$160,190,958 to \$131,390,642, or by \$28,800,316; of

cattle, hogs and sheep, from \$24,204,452 to \$16,064,773, or by \$8,139,679, and of mineral oils, from \$105,281,603 to \$99,748,893, or by \$5,532,710, a total decrease in these four classes of \$100,112,946. In cotton, however, there was an increase from \$438,556,422 to \$461,376,575, or by \$22,820,153. The increase in value of cotton exports was accompanied by a decrease of 481,538,041 pounds in the quantity exported.

SOME FACTS ABOUT EQUIPMENT ORDERS.

The official announcement that the Norfolk & Western Railway Co. will purchase this year 3000 freight cars and 50 locomotives, which was published last week in the MANUFACTURERS' RECORD, encourages belief that this good example of forethought and enterprise will be speedily imitated by other railroad companies in need of equipment. Excepting five or six roads, the large lines of the South were not liberal in ordering new rolling stock during the past year. Their equipment contracts were small, despite the very obvious fact that traffic is rapidly increasing and the demands of general business upon the railroads during 1910 are going to be heavy.

A glance over the equipment news of the past twelve months reveals the fact that sixteen of the important roads operating in the South and Southwest placed orders for either cars or engines, or both, while nine others, equally important lines, were conspicuous for their absence from the market. One of these latter, however, built some cars in its own shops, and is now reported building more, but it did not purchase any locomotives, and there is no recent news to show that it may soon become a buyer. Moreover, some of the companies which did buy rolling stock, have not purchased to the amount to which they might be expected to need, the Southern Railway, for instance, having ordered comparatively few engines and cars; this, too, notwithstanding that more and more evidence of the growth of general trade and traffic is coming along every day. Here is a dispatch from Fort Worth, Texas, showing that the amount of cars handled through that city in the last year was greater than ever before in a like period, the total number of cars dispatched or received there being 936,234, an increase of 81,941 as compared with 1908, or more than 9½ per cent.

The Harriman lines were notable for large orders of equipment, evidently at the instance of the late E. H. Harriman, who was no laggard in enterprise.

Whatever may have been justly charged against him, none could accuse him of being a wrecker; he was a builder if ever there was one in the railroad world, and the prosperity of the great system he erected is as much a memorial to his manifold abilities as is the system itself. The Chesapeake & Ohio, a Hawley line, was another large purchaser, but in proportion to its business, just as were the Harriman roads,

and there may be those who, comparing Hawley with Harriman, will cite these equipment orders as showing how the new railroad is being worked along lines like those laid down by the "big little man," who recently passed away. Other roads can be mentioned as being liberal buyers of equipment, including the Pennsylvania Railroad system, which, however, has but a small proportion of its trackage in the South.

Besides the lines named, there were among the principal roads in the South the following buyers during 1909: Carolina, Clinchfield & Ohio; Atlantic Coast Line; Seaboard Air Line; Norfolk & Western; Nashville, Chattanooga & St. Louis; Norfolk & Southern; Atlanta, Birmingham & Atlantic; Baltimore & Ohio; Rock Island; St. Louis & San Francisco; Queen & Crescent Route; and Missouri, Kansas & Texas.

Those of which little, if aught, was heard are the Santa Fe; Kansas City Southern; Western Maryland; Louisville & Nashville; Mobile & Ohio; Missouri Pacific; Illinois Central (including the Yazoo & Mississippi Valley); St. Louis Southwestern; Texas & Pacific, and several others.

Is it not high time that the delinquents should imitate the example set by their more progressive brethren and place themselves as speedily as possible in condition to promptly handle all business that will be offered them in the near future?

WHY?

Railroads catering to the tourist travel to Florida sometimes seem perplexed to find satisfactory names for their special trains. The Southern Road once had a special known as the Palm Limited. Another road has a special called the Flamingo. Why does not some Florida road name a train the Orange Blossom Special or the Orange Grove Special, and thus give something typical of the beauty and charms of the State that would catch public attention everywhere? Or why not try the Winter Paradise Special. Why in the world should any train be afflicted with such a name as the Flamingo Special? It reminds one of the days years ago, when Florida railroads illustrated their advertising booklets with swamp scenes, alligators or negro babies, as though these things were the chief attractions of the State. Fortunately, the railroad people outgrew that crude form of advertising, but they are not yet fully equal to utilizing all the numberless opportunities to attract favorable attention to the State.

BEHINDHAND.

The indignation of John Kirby, Jr., president of the National Association of Manufacturers, at the prominence of certain labor leaders in the counsels of the so-called National Civic Federation of New York, indicates that Mr. Kirby does not know one of the main purposes of certain activities in the formative period of the Civic Federation.

PARTNERS OF THE MANUFACTURERS' RECORD IN WORK FOR THE SOUTH.

One of the pleasures connected with the business of publishing the MANUFACTURERS' RECORD is the evidence constantly coming to us of the widespread and deep personal interest in it on the part of Southern men and Southern organizations of various kinds. This evidence comes to us in letters from all quarters of the South, and perhaps the most interesting feature of many of the letters is the revelation of a sense almost of personal proprietorship in the MANUFACTURERS' RECORD. Not infrequently this sense is manifested most strongly in antagonistic criticism of positions we may take or of articles that we may publish. Letters containing such criticism are, when dictated in proper spirit, as welcome to us as letters of commendation. They indicate an appreciation of the work which we are doing, of our equipment for that work and of our power to be of service to the South as a whole and to Southern communities.

These comments of ours are prompted by an episode in connection with our special issue of January 6. We have received many gratifying messages of satisfaction with the issue as a whole, or with particular articles published in it. From two ports in Florida, however, have come protests against one feature, protests on their face due to a misunderstanding of that feature. They have come to us by way of the local business organizations and refer to the article by Mr. Bernard N. Baker of Baltimore, president of the National Conservation Congress, and one of the leading experts of the country in ocean shipping matters, in which, with an outline map for illustration, he discussed the vast shipping possibilities of the South in connection with the Panama Canal. The trouble seems to be that these two Florida ports did not appear upon the map, which showed only eight of the thirty odd Southern ports. The letter from one of the ports, Tampa, was, as we judged from its contents, not intended for publication. But it reflected the same feeling as to that port as did the second letter, from Pensacola, as to the port of Pensacola. The latter was written by Mr. H. H. Thornton, president of the Chamber of Commerce of Pensacola, and is as follows:

Assuming that it was not intentional, I write to ask you to correct a gross injustice done Pensacola by your paper.

In your issue of January 6, page 105, you publish a map, "Showing sailing routes between Southern ports and South American ports," and on that map Pensacola, the Finest Port in the South, if not in the United States, does not appear. I say Finest without fear of contradiction, because I know of no port completely landlocked, where every ship in the world can anchor in safety at one time; where vessels can, at any stage of the weather, cross a straight bar, on which there is 33 feet of water at low tide, and where steamers drawing 30 feet, without the aid of a tug or any assistance but their own steam, can, in an hour's

time, come from the open sea to the docks where they receive or discharge their cargoes, from or into cars, within three feet of the vessel's side.

Pensacola could not have been forgotten because of her insignificance (notwithstanding her magnificent harbor), for she has always been the first Pitch Pine Lumber and Timber port in the world.

She is the first Naval Stores port in the Gulf (having one manufactory that produces more tar than any other in the world).

She ranks third or fourth in her Cotton exports in the Gulf.

She exports more Steel Rails than any other port.

She is the first Mahogany importing port in the United States.

She figures prominently in exports and imports of many other commodities, but the above is sufficient to show her importance, and demand her being on any fair map purporting to show the important Southern ports, especially in connection with the Isthmus of Panama, as she is the nearest port, with the exception of Key West, to the Canal.

Of course, when your magazine is looked over carefully, it is fair to assume that your map was published in connection with Mr. Baker's article, but in these busy days men frequently look at maps and pictures, and nothing else, in turning over the leaves of a magazine, and on the face of it your map appears to be one published by you, showing the Southern ports of importance in connection with the Canal, and I trust your sense of fairness will cause you to correct and reprint your map, or give this letter the prominence that you gave the map in your paper.

Disclaiming in advance any intention of publishing questions that may be raised at other ports regarding the accuracy of Mr. Thornton's impressions as to some of the points he mentions for Pensacola, or of publishing from other ports unthinking, similar protests, suggested by Mr. Thornton's letter, we shall, as we have written Mr. Thornton, give a general turn to the letter we have written him, in the hope that our general attitude and our position in this particular case may be understood better than ever before.

The assumption is correct that the MANUFACTURERS' RECORD intended no injustice to Pensacola or to any other Southern port in not having their names appear on the map accompanying, in its issue of January 6, the article by Mr. Bernard N. Baker, on the vast shipping possibilities of the South. Nor did Mr. Baker, under whose direction the map was made, intend any injustice to any port, his only idea being to strongly emphasize the South's great opportunity through the building of the canal. As a man known throughout the world for his pre-eminent abilities in building up a great American ocean steamship line, and his co-operation with the National Government in the time of the Spanish War in providing at his own expense a hospital ship, Mr. Baker had a right to suppose that his hearty commendation of the broad opportunities of the whole South would not be attacked by reason of his failure to mention every individual port. We believe that consideration of certain facts will suggest that no injustice was done to Pensacola or to other ports not mentioned on the map.

We may well understand that men enthusiastic about their respective communities are anxious that nothing be left undone for the advancement of the communities, and our recognition of that fact is shown in our standing offer to publish facts sent us by the various business organizations of all Southern cities tending to promote their material welfare. But we think that it should be obvious to our friends that that standing offer does not imply a necessity on our part to mention, whenever we are dealing broadly with any subject in which any particular com-

munity may be interested, the particular community.

Mr. Baker's article was not published for the purpose of promoting the laudable ambitions of any special Southern port. In a letter under date of January 13, sent by Mr. Baker to Tampa, he wrote:

I cannot understand how you would think that there was any intentional thought of leaving the port of Tampa out of consideration in the short space of an article of this kind. It was impossible to take in all the ports. There is no port in the South that I feel a more direct personal interest in than that of Tampa. My warm personal friend, Mr. R. Lancaster Williams, one of the receivers of the Seaboard Railroad, has called my attention to the advantages and opportunities of your port, and I promised him that I would do what I could to develop them, and, as soon as possible, visit Tampa with him with a view to seeing what could be done in the way of steamship connection, and give my advice from my long experience in the steamship business. I think your opportunities will bear investigating, and the advantages of your port in connection with Panama should be made.

The text of Mr. Baker's article shows that he was dealing with the South as a whole. For instance, his article says:

How many people realize what the Panama Canal may mean to the *South*! * * *

A glance at the table of distances will show that the *South* has the advantage of the commercial world in its relation to the Panama Canal. *Some* of these distances are as follows:

As a matter of fact, in the table of distances, of *some* of the distances, Pensacola appears as next to Key West in shortness of distance to Colon. Neither the table nor the map attempted to deal either with all Southern ports or all South American ports. Both map and table were designed to impress upon the whole South the importance to all Southern ports of the opening of the Panama Canal. There is no pretense that the map was a complete map or that the article was attempting to deal with the manifold advantages of many Southern ports, individually considered, any more than was like intention in the article in the same issue of our paper by Col. C. P. Goodyear, on the relation of Southern seaports to Southern progress. If it had been intended to discuss individual Southern ports the article and the map would not have omitted mention of Wilmington, N. C., with exports during the past fiscal year valued at \$20,479,726; Brunswick, Ga., with \$14,698,712 of exports; Fernandina, Fla., with \$4,905,081 of exports; Newport News, Va., with \$7,787,619 of exports; Pearl River, Miss., with \$7,586,036 of exports; Pensacola, Fla., with \$16,339,756 of exports; Sabine, Texas, with \$17,578,899 of exports; Tampa, Fla., with \$4,061,677 of exports; Corpus Christi, Texas, with \$9,064,520 of exports, and other Southern ports of more or less importance. Yet, we cannot understand how anyone in calm reason would care to suggest that the MANUFACTURERS' RECORD has done an injustice to any one of these ports because their names did not appear upon an outline map illustrating an article in our column dealing broadly with Southern commerce in its relation to the Panama Canal. As well suggest that citrus fruit growers of Texas or Louisiana could find injustice in our publishing the article on citrus fruits in Florida, or that the tobacco industry in other parts of Florida or the South could find injustice in our publication of the article on the cigar industry at Tampa, or that iron interests in other States could find injustice in our publishing an article on the iron and steel and kindred interests of Alabama, or that lumber interests in other parts of

the South could find injustice in our publishing the article on lumber conditions in Texas and the Southwest, or that injustice was done to other cotton mill centers because only three or four such centers were mentioned in the article which we published discussing the social effects of the cotton industry.

The South is one of the biggest propositions on the face of the earth. After more than a quarter of a century's experience in the work of speeding the development of the whole South, in which every part of the South and every community in the South should share, the MANUFACTURERS' RECORD realizes probably better than anybody else the utter impossibility of covering every fact or point about the South in any single one of its issues. Were it physically possible to do so, we should be obliged to publish a volume of a thousand pages of reading matter, about four times as large as our edition of January 6 and weighing eight to ten pounds. We feel quite sure that the size of such an edition would defeat its very purpose and that in the mass of detail would be lost to sight the great progress and the great opportunities of the South.

Our aim, therefore, is to publish from week to week in as attractive a manner as possible, as much information as we may be able to condense within a limited number of pages, in the desire and in the hope that the whole South may be thereby benefited. As part of our work, we have at some of the important centers regular correspondents and a host of volunteer or occasional correspondents at many other points. In addition, our traveling representatives send us frequently news matter bearing upon developments in the cities and towns that they visit, though by no means attempting to write about every place. Moreover, we have a standing invitation to chambers of commerce, boards of trade and other business organizations to send us for publication, free of cost to them and whether or not they are subscribers or advertisers, proper matter likely to attract to their respective communities investments in the shape of men or money. That offer is open to Pensacola, as well as to every other Southern community, it has been seized more than once by Tampa, and we shall be glad to have definite facts, the publication of which may inure to the benefit of all cities. About the only limitations upon such communications are the avoidance of comparisons with other communities and regard for the fact that our space is limited and that we endeavor to cover in each of our issues as many points about the South as possible.

We also welcome criticism of the conduct of our undertaking and always give reasonable criticism due consideration. We are not perfect and never expect to be perfect. We are a human institution. Criticism frequently gives us a light that we could not otherwise gain and becomes a basis for comment on our part which may explain to others who have failed to let us know of their disagreement with us, the points that have led them to disagree.

GOVERNMENT AND ROADS.

A dispatch from Washington is to the effect that a bill has been introduced into Congress, appropriating \$10,000,000 among the States and Territories pro rata, according to mileage of the traveled public roads. If such a bill is intended to cause the building of public highways where they are most

needed, it is apparently framed on wrong lines. The States best equipped with highways would be likely to get most of the appropriation, while the burden of consequent taxation would fall heaviest upon the States less able to bear it. The several States will do well to resist all plans of the kind for Government "aid" in road construction, and all plans for Government aid in other directions in cases where the States are able to do the work themselves.

SHEEP IN THE SOUTH.

In our issue of December 30 we cited figures showing that the South was not approaching its great possibilities in sheep-raising. Since then the Agricultural Experiment Station of the Alabama Polytechnic Institute at Auburn has issued a bulletin embodying the results of four years' experiments by Dan T. Gray and J. W. Ridgway in determining what Alabama may do in that line. It deals especially with the raising of lambs, and is so intensely practical that its introductory statements are worth reproducing here in full as follows:

When one rides through the State of Alabama and sees the thousands of acres lying idle, growing up in brush and fine grasses, one wonders why there are not more sheep produced in the State than there are. It is usually stated that only 40 per cent. of the area of Alabama is being cultivated or used to return wealth to the State. In some counties no more than 15 per cent. of the total area is under cultivation. The other 85 per cent. is lying idle. Money is tied up in the whole amount, but the farmer, on the average, is making use of but about 40 per cent. of his whole capital invested. If sheep and other kinds of live-stock were more generally introduced, the usable area could be greatly increased, as these animals would make use of the present waste places and hillsides and help develop the pasture side of our farming operations. Even now thousands of acres under cultivation should be put down to permanent pastures and stock placed upon them. Hillsides which wash should be put down to grass. This could be done without at all decreasing the cultivated area. The sheep need not occupy one foot of our already cultivable area; he would but be a means of putting more of our land capital to work. The Alabama farmer can surely farm in such a way as to use more than 40 per cent. of his land capital. What would we think of the business ability of a banker who used but one-half of his available capital, or the merchant who sold goods from but one side of his store?

Then, in addition to the fact that the sheep is probably the best animal known to put our waste areas to use, Alabama is just suited to sheep production. In any line of live-stock production pastures must be made the base, and Alabama can have permanent pastures for at least 10 months in the year by the use of Bermuda and burr clover. The remaining two months can be bridged over with temporary winter pastures. The Northern farmer must be contented with a grazing period of not more than six months. Then, again, our climate is so mild the year through that the lamb can be born in the midwinter and suffer none from the cold. This permits the Alabama farmer to get the lambs upon the early spring market at the time when high prices are realized. In the North when the lambs come in December or January very expensive care must be given them to keep them from freezing, as they must be kept in a "hothouse." In the South the early lamb is free to run at will throughout those months, and can even have green pastures to graze upon.

Still further, when the lamb is ready for the market good prices can be realized upon him. Some there are who claim there are no markets for lambs. But there is a great demand for the early lamb. The farmer should realize that a part of his business consists in finding a market for what he produces. The business man lays in his stock of goods and then looks for a market for it. The farmer must do the same thing. Many Southern cities offer as good a market for early lambs as does the St. Louis market. A following picture shows some spring lambs, that had nothing but their mother's milk and pastures, which sold in Birmingham for 10 cents a pound live weight on April 15, 1906. Birming-

ham would use thousands of such lambs. These were good lambs, but no better than any other farmer could produce. They were raised by J. S. Kernanachan of Florence, Ala. A good market can always be found for good fat stuff. The local market may not furnish a good sale for this class of stuff, but the cities are more than glad to receive it. The express charges do not prohibit the lambs being sent a good ways from home.

The Southern farmer depends too much upon one crop for a living. He is like the man with all his eggs in one basket—if a mishap befalls the basket, all of the eggs are broken and lost. So if the season should happen to be unfavorable for the growing of cotton, the man who depends altogether upon cotton for a living finds that at the end of the season he has but a limited bank account to carry himself and family through the winter months. If this farmer has some pigs to sell, or a mule colt, or some wool or a few lambs, the short cotton crop will not be of so much importance. The farmer who is interested in more than one farm product suffers very much less in time of unfavorable seasons than the man who grows but the one crop, cotton. Even though it be too wet for the cotton to do its best, it may be, and probably will be, a very favorable season for the pastures, and the man who has a good flock of sheep out on the pastures raising some good fat lambs will not worry so much about the unfavorable season for cotton, as he feels that, although the cotton may be a partial failure, the sheep will bring him excellent returns.

There is yet another advantage in the sheep business. Spring is the time when the average farmer has not a cent coming in. This is the very time when the heavy expenditures must be made for machinery, fertilizers, mules, harness, etc., and to obtain these things the farmer usually asks some merchant to credit him until fall. The sales from the flock of sheep come in just when the money can be used for the above purchases. Both the wool and the early lambs are ready to sell, and the money derived from these sales can be used to fit up the farm for spring work. From 100 ewes there could be sold by the middle of April from \$60 to \$80 worth of wool and as many dollars from the early lamb sales, and probably much more from the lambs, provided they were dropped at a very early date.

These suggestions as to Alabama are applicable practically to every State in the South, especially to those convenient to such of the larger cities as Baltimore, New Orleans, St. Louis, Chicago, Louisville, Memphis, Atlanta, Birmingham, Fort Worth, Houston and Dallas. While early lambs are an important feature, their importance should not overshadow the value of other sheep products or the part that sheep-raising may do in restoring rundown land or maintaining the fertility of the soil. Expansion in sheep-raising should be accompanied by expansion in dairying and stock-raising. In not giving proper attention to such agricultural industries the South is neglecting great opportunities.

CHANGING CHINA.

More illustrative of the change that is taking place in China than even the building of railroads is a letter to the MANUFACTURERS' RECORD from the C. C. MacKee Company, manufacturers' agents, Hongkong, who, writing under date of December 6, say:

A wealthy Chinese gentleman has called on us with the idea in his mind of developing a tract of land of his into an amusement place after the style of American resorts, and asks us to secure prices, information, booklets or the like on "merry-go-rounds," all kinds of penny-in-the-slot machines, penny candy machines, small kinetoscope machines, with the moving pictures (one person to a machine)—in fact, all that is up to date in American amusements of this nature. Will you kindly put us in touch with such parties as are handling such goods, and very much oblige, asking them to give, when addressing us, all discounts, cash discounts and boxed-for-export prices?

Would not China need to be pitied if its people should suddenly turn with a rush into the development of amusement resorts with the penny-in-the-slot machines, penny candy machines and

similar amusements? But such seems to be a part of the development of the day, and so China joins the procession in catering to the love of this kind of amusement, and doubtless once started, will go the pace as lively as America.

THE DELUGE OF GOLD AND ITS EFFECT IN ADVANCING PRICES.

In view of the wide discussion regarding the increased cost of living it may be worth while turning to the MANUFACTURERS' RECORD of May 18, 1905, in which, discussing "The Coming Deluge of Gold," it was said:

It would seem that the whole world is at the threshold of a period of advancement in material affairs, and necessarily of a higher range of prices and of an advance in wages, such as mankind has never known.

Referring again to the same matter March 7, 1907, it was said:

Over and over the MANUFACTURERS' RECORD in discussing the subject pointed out that during this changing period in the world's affairs there would be great unrest among the laboring people, who, forced by the increasing cost of living, would demand, and gradually secure, a very much higher range of wages. It was urged that all employers of labor should themselves recognize the justice of this situation. * * * This readjustment has not yet been completed. No one need imagine that we have seen the limit of the higher cost of materials of all kinds, of wages and of living. * * * The fundamental reason for this change is found, as stated above, in the marvelous increase in the world's gold output. So great is this increase that it upsets all calculations based on previous business conditions, and the experience of the past is not altogether a safe light by which to guide our footsteps in the future. It is true that very many other conditions have come into play affecting the relation of the gold supply to trade, but these conditions all make for expansion of industry.

And after giving a statistical resume of the world's gold production from 1492 to 1907, it was said:

In studying these figures every thoughtful man must be impressed with their significance and with the tremendous influence of this gold output upon the expansion of the world's trade and commerce; of a steadily rising cost of living, which necessarily means high wages; of a great increase in the value of land properties, agricultural, as well as coal and ore, cement and timber, and all other forms of property whose values, unlike those of bonds and mortgages, are not limited to a fixed rate of income. Temporary reactions will not count very much in halting this upward and forward movement.

We quote these statements from the MANUFACTURERS' RECORD of 1905 and 1907 as illustrating many similar statements published by us beginning with the time when gold production attained such figures as to begin to command the serious attention of students of economic conditions.

Between 1851 and 1855, following the discovery of gold in California, the world's output jumped from an average annual production between 1841 and 1850 of \$36,000,000 to \$132,518,000. In the succeeding five-year period this increased by nearly \$2,000,000 a year, and continued with slight fluctuations up to about 1870. The production between 1866 and 1870 averaged \$129,619,000, but after that there was a gradual decline, dropping in 1876 to \$110,000,000; in 1880, to \$108,000,000; in 1883, to \$98,000,000, and not until 1892 did the world's production again average as much as it had done in the five-year period between 1851 and 1855. Thus, in a period of forty years the world's gold production practically stood still, or went backwards. For most of that time it showed a large decrease as compared with the years of heavy output in California.

Beginning with 1892, when there was

an output of \$146,651,000, there was a steady advance, but it was not until 1896 that the total was as high as \$200,000,000. In that year the world's gold production figured up \$202,251,000. Since then the gain has been very rapid, and last year the total was over \$457,000,000.

In a little over 400 years, or from 1493 to 1895, during which time the record of the world's gold output had been kept, the total was \$8,799,482,080. In fourteen years, from 1896 to 1909, both inclusive, the world's gold output was \$4,641,483,646, or more than one-half as much as the output of the preceding 400 years. This in itself is a startling fact. It is of tremendous significance. It has a bearing on every phase of the world's activities and on every phase of life.

It was not until 1906 that the total for any one year reached as much as \$460,000,000, the output for that year being \$405,551,022. In the next year this rose to over \$411,000,000; in 1908, to over \$443,000,000, and in 1909 to \$457,000,000. Between 1851 and 1895, both inclusive, 45 years, the output was \$5,552,000,000, or an average of about \$120,000,000 a year. We are now minding at the rate of over \$450,000,000 a year, and this will probably increase rapidly to \$500,000,000, and then to \$600,000,000 or more a year.

Coincident with this wonderful flood of gold and its inevitable effect in causing advancing prices, other conditions have helped toward bringing about the same result. The long period of declining agricultural prices, from which there was not much sign of any turning toward better prices until about ten years ago, naturally resulted in driving population away from agriculture into industrial pursuits. The farmer was not getting his share, and the law of supply and demand forced a change in farming conditions. Now our consuming capacity has developed more rapidly than our agricultural output. This alone would have had a marked effect upon the prices of agricultural products, but this added to the gold output, which, of itself, would have brought about higher prices, is resulting in present conditions.

Moreover, there is a great advance toward a higher average of living conditions throughout the world, with an advancing scale of wages even in countries in which but a few years ago a surplus population largely in excess of the demand for labor held wages and living at starvation conditions.

The world is undergoing a readjustment, and, just as the MANUFACTURERS' RECORD said in 1907, during this changing period in the world's affairs there will be great unrest among the laboring people, who, forced by the increasing cost of living, will justly demand and gradually secure a much higher range of wages.

This is what we are confronting in the United States, and to a large extent it is the same in other countries. It is a condition that is beyond free trade or protection, for it is worldwide. It is broader than the tariff, broader than trusts or combinations, broader possibly than the power of government, for it is an economic revolution. It demands, and should receive, the most profound study by the ablest men of the world, and if a congressional investigation can throw any light upon the subject it should be undertaken at once, for the cost of living is laying a heavy burden upon every man of fixed income, and upon all wage-earners, while the speculator and the property-owner will reap

large profits from the great advance in values now under way.

Quoting again from the editorial of March 7, 1907, we can only reiterate what we then said in referring to world-wide advancement, and which can only be temporarily halted by reactions or panics:

Under this amazing expansion, due largely to the development of the steam engine, electric power, the telephone and other modern labor-saving things, all now uniting with this great deluge of gold, which, like the magpie's wand, is touching the dormant energies of mankind and quickening them to unprecedented activity, the imagination halts as we try to grasp the wonders of the coming years.

THE SONG OF PROSPERITY.

The Baldwin (Ala.) *Times* has a new editor—new to the *Times*—though long a factor in the newspaper work of that State. In his initial editorial in the *Times*, he says:

The present management of the Baldwin *Times* takes hold of the helm to guide the future destinies of this paper at a most opportune and propitious season, with a clear sheet and a fair wind. The tide of immigration has set strongly to the southward, and Baldwin county is in the direct path of the movement. It has been said with apparent truth that this is the best advertised county in the Southern States. Still the half of the possibilities and potentialities of this favored section have not been told to the world. The song of the builder's saw, the creaking of the stump puller of the clearer of land and the "Whoa, mule!" of the plowman combine in a day-light chorus from one end of the county to the other, and the beacon fires at night made by those who are clearing up for tilling what was but recently barren, cut-over land are so numerous on the hills and in the valleys of Baldwin as to remind one of an army encamped. All this means prosperity. It means more homes, more products for the market, more business for the merchant, and, incidentally, more subscriptions and advertising patronage, more readers and more friends for the Baldwin *Times*. It means more churches, more fraternal lodges, more and better schools and more children loving life, laughing and living in the sunshine.

The story as thus presented is a thousand times more interesting to the people of Baldwin county than would be reports of murders and suicides and scandals. The story of material development when rightly told can be made interesting to every reader of every country paper in the South. For this material development, as the *Times* says, "means more churches, more fraternal lodges, more and better schools and more children loving life, laughing and living in the sunshine."

That is the meaning of material progress. That is why the people in the South who are working for its material upbuilding are bending their energies to this work. They have a broader vision than simply the material side, for the people of the South are catching a glimpse of the possibilities of the good that may come out of material development. We take it that the Baldwin *Times* will devote its energies largely to telling from week to week the story of the successful farm, the well-contented settler from elsewhere, the new church and the new school, and the new and better roads that are built, and in publishing such news as this it will create friendly rivalry to make other farms successful, to build other churches and other schools and other good roads, all for the betterment of the whole community. And what the *Times* ought to do, and we presume will do, may be followed to good advantage by all the papers, large and small, throughout the South.

What a splendid hit could be made by some leading daily in every State if it had on the editorial page of every issue

a column headed "A Song of Prosperity," and in that column had from every part of its State brief items of news telling about the betterment of farms, the building of better roads, of new schools and new churches, the advance in the value of agricultural lands, the incoming of settlers from elsewhere, the rise in the value of local securities and other things that tell of progress and prosperity. It would be the best column to be found in any daily paper in the South. It would take a Frank Stanton to do justice to this "song of prosperity." In other words, it should be the product of one of the ablest, sunniest men on the staff, a man who knows such news and knows how to present it.

WHAT WESTERN RAILROADS HAVE DONE.

In a conversation with a railroad official of the South the other day the fact was brought out very clearly that the reason why nearly every man, woman and child east of the Mississippi River expects sometime to "go West" permanently or merely to see the country is because of the tremendous amount of advertising that has been done and is still being done by the railroads and towns of the Western States.

This railroad man has just recently returned from a trip to the Pacific Coast, and it is, in his opinion, after visiting some of the towns in the apple country of the Northwest, that these people spend more than \$10 in advertising to every \$1 spent by the towns in the South, which are located in sections equally as favored and where just as toothsome and marketable apples can be raised.

These Western communities appreciate not only the value of the printed word in conveying their message to the outside world, but they are invading the East with their exhibits, going into one city after another with train loads of fresh fruit and experienced men in charge, who are prepared to give inquirers the fullest information of an exact, practical kind.

Some of the smallest of Western towns get out the most beautiful advertising literature, that would do credit to a metropolis. They have spared no expense in showing the advantages of their locality in the most alluring colors, and when a man goes to investigate he is not only shown the beauties of the landscape (and incidentally told the price of real estate), but he is welcomed into the community as a friend. He is entertained at the town club, and, instead of being left to his own devices, is looked after by well-informed, hospitable citizens, who are able to give him just the kind of information he wants. The impression made by the advertising is thereby deepened with these travelers, so that they come away with a firmer conviction than ever that the West is a great country.

So it is. And so everybody, by reason of this advertising, has a very decided and well-defined longing to some day or other see this marvelous West about which the country has heard so much.

There seems to have been spread a glamour over the whole Western land.

We marvel at the roses in Washington, and forget that our own fields are abloom nearly all the year. The fog, dampness and long rainy season of some places on the Western Coast are lost sight of when we think of the Golden Gate and the grandeur of the Pacific.

It may be the scenery; it may be the opportunities for money-making; it may be the climate, but whatever it is, we

want to go and see it. And it is right that we should go, because traveling educates, and we can hardly appreciate the beauties of our own place of abode to the fullest until we have seen other places.

This is not a diatribe against the West. Far from it. The West is peopled with the best of our American stock—pioneers who have done more than any other class to make this great country of ours what it is. It is because of this pioneering spirit, the spirit that overcomes all obstacles, that has made the Westerner accomplish what he has. He deserves the fullest credit.

It is not out of place, however, to exclaim against the conditions which have tempted so many of the South's sons to go elsewhere, and the fatuity which permits all of the wealth and splendor of resources that nature has lavished upon the South to occupy anything than the first position in our minds.

The Western railroads have taken a large share of the advertising expense which has been borne in building up the West. Western towns advertise, but Western railroads are large spenders in publicity work. By the money they have put out in this way they have populated a desert. How much more encouragement have Southern roads to spend large sums in the broadest kind of a campaign to acquaint the world with what the South has!

OVERLOOKED IN DISCUSSIONS OF COTTON PRICES.

In the MANUFACTURERS' RECORD was recently made a suggestion that a solution of problems confronting cotton manufacturers, because of the high price of cotton might be had in raising the price of cotton goods. This suggestion is emphasized by some practical facts brought out in the *Textile Manufacturers' Journal* by President S. B. Tanner of the Henrietta Mills, Caroleen, N. C. He writes:

All farm products have been on a 15-cent cotton basis for two years, and with the increased consumption 15 cents will not seem high in comparison unless a crop of about 15,000,000 bales, American cotton, can be assured.

The average price of corn for the past 18 months has risen from 50 cents to \$1 per bushel in this section, and wheat from 75 cents to \$1.25 and \$1.50; eggs from 10 cents to 20 and 25 cents a dozen, and all other farm products in about the same proportion, and these prices are paid without hesitation.

It is absurd to say that goods made of 15-cent cotton will not sell freely. The world took all the goods the mills could produce over 40 years ago when cotton was 18 to 30 cents per pound, and at a time when this country was almost bankrupt and the purchasing power of the people was very small in comparison with that of the present time.

The only thing necessary in establishing higher levels for cotton and cotton goods is confidence in the stability of the markets. Some argue that even if this is a small crop the price will decrease when a large acreage is planted next spring, but there are two sides to this question. We had a large planting last spring, following the largest crop on record, and conditions were such that the price gradually advanced to 15 cents. Suppose similar conditions prevail next spring, following a very short crop; there would be no question about values—it would be only a matter of getting a supply of goods if possible.

Cotton at 15 cents is lower in proportion than any other commodity, and the prices at which goods can be made on this basis are not high except in comparison with unprofitable business for both the planter and the manufacturer. When the trade becomes accustomed to the higher level of prices there will be as many goods sold at the lower prices, and the Southern planter will only be on a parity with the planters of other sections. If prices are fairly uniform the manufacturers everywhere will make as good profits as they would with lower prices.

Coming from one of the leading cot-

ton manufacturers of the South, these suggestions should carry weight with his fellow-manufacturers in this country and check any inclination on their part to curtail production and thereby play into the hands of European spinners.

NATURAL GAS.

Judged by the figures of its value, the production of natural gas in this country more than doubled between 1901 and 1908. Up to 1885 Pennsylvania was the principal producer, but by 1895 Pennsylvania, New York, Ohio, West Virginia, Illinois, Indiana, Kansas, Missouri, Kentucky, Tennessee, Texas, Arkansas, Alabama, Wyoming, Utah and Colorado were among the producing States. The quantity produced in 1908 was 402,140,730,000 cubic feet, a decrease of about 2,500,000,000 cubic feet under 1907. Pennsylvania led in production with 130,476,237,000 cubic feet, West Virginia being second, 112,181,278,000 cubic feet; Kansas third, 80,740,264,000 cubic feet; Ohio fourth, 47,442,393,000 cubic feet, and Oklahoma fifth, 11,924,574,000 cubic feet.

PEANUTS FOR ARKANSAS.

The annual convention of the Arkansas State Horticultural Society and the annual convention of the Arkansas Lumber Dealers' Association are scheduled for this week at Little Rock. The consequent assembling of men from all parts of the State makes particularly timely the "peanut smoker" of the Board of Trade, arranged for Friday night. That function is intended to further the movement, in which Secretary George R. Brown of the Board of Trade is actively interested, for the cultivation on a large scale of peanuts in Arkansas.

THE COTTON MOVEMENT.

In his report for January 14 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 136 days of the present season was 7,585,623 bales, a decrease under the same period last year of 1,782,008 bales. The exports were 3,947,206 bales, a decrease of 1,283,198 bales. The takings were, by Northern spinners, 1,279,733 bales, a decrease of 299,939 bales; by Southern spinners, 1,065,877 bales, a decrease of 12,345 bales.

TEXARKANA IMPROVEMENTS.

It is estimated that \$1,535,000 are available for public and private improvements at Texarkana, Tex.-Ark. Among the sums are \$175,000 for good roads, \$175,000 for streets, \$200,000 for waterworks and \$125,000 for a high-school building. About \$175,000 will be spent upon residences. Among additional contemplated improvements are \$100,000 for a viaduct and \$50,000 for street pavement.

TO BUILD A BIG BRIDGE.

Other Railroad Movements in Eastern Carolina.

[Special Cor. Manufacturers' Record.]

Raleigh, N. C., January 17.

The Corporation Commission is notified by the Atlantic Coast Line Railway that the latter will build a bridge across the Roanoke River at Weldon, and that this will cross the Seaboard Air Line overhead. The matter bears upon the question of the union passenger station which Weldon is to have. As yet the site has not been selected or the plans adopted. The building of this bridge is a very important movement. The river is quite wide there, and the bridge will be a very expensive one, costing not less than half a million dollars, it is said. The most important bearing, however, in the matter is that the way is now open for the Atlantic Coast Line to come into the

Raleigh territory, as when it began to use the Seaboard Air Line bridge there was an agreement that during such use the road would keep out of Raleigh territory. Now it will come here, by way of Spring hope; in fact, half of the distance is already built and in operation.

The corps of surveyors is now in the field making what is known as the south-eastern survey for the extension of the Raleigh & Southern railway, and within 16 months it is expected that 50 miles more of this line will be in operation. This will take it nearly through Bladen county, and will point toward Brunswick county and the coast. It is understood that the company will secure terminal facilities at Southport. The money is in hand for all the construction work.

Today the surveying party of the Montgomery Lumber Co. arrived here from Springhope and met City Engineer Richard Seawell and had a look at the country near this city, having last summer been shown some of this by members of the Chamber of Commerce and Merchants' Association. It is understood that the entry into Raleigh will be made at the south side, which turns out to be in every way admirable. The road will cross the Neuse River about six miles east of Raleigh, and will traverse a very fertile farming section, where tobacco is an important crop.

Today the dredges at work cutting the inland waterway canal between Adam's Creek and Core Creek, fresh water and salt water, respectively, were barely three miles apart, and the engineer officer in charge says the work will be done next summer. As it progresses everything is made ready for use of the canal. All the material for the reinforced concrete bridge across Core Creek, which will be the only one on this canal-cut, has been delivered, and its construction is under way.

FRED A. OLDS.

For a Cotton Mill.

Editor Manufacturers' Record:

During last year I built a railroad south from San Antonio, and have several good towns on it, and I want some cotton mills located in those new towns, where they will be on my railroad and will be near the International & Great Northern and Southern Pacific Railroads. I am offering 20 acres of land and \$25,000 in money for the location of a 5000-spindle cotton mill at a point which I will indicate on my railroad, which is very convenient to the finest grade of lignite coal to be found in this State, so the fuel proposition is already solved. I want assurance from the party locating the mill that it will be operated for not less than five years. We raise the finest cotton in the world, and our climate is such that mills can operate all the year round, and the location of cotton mills on this line will save the manufacturers the freight from Texas to the mills and then the freight back to the South and West, and thereby insure greater profits to the manufacturers.

C. F. SIMMONS.

San Antonio, Texas.

The Blair Limestone Plant.

The Blair Limestone Co. of Martinsburg, W. Va., has begun shipments from its plant, previously described. It has expended over \$50,000 for buildings, machinery, 11 kilns, etc., and is employing about 250 men. Eight additional kilns are under construction, and from 10 to 20 more will be erected. The plant is operated by electricity purchased from the Martinsburg Power Co. development at Dam No. 4, and will eventually employ over 1000 men. The Jones-Laughlin Steel Co. of Pittsburgh controls the Blair Limestone Co.

RAPID DEVELOPMENT IN THE SOUTHWEST

By T. L. PEELER, Industrial Agent Missouri, Kansas & Texas Railway System.

[Written for the Manufacturers' Record.]

No part of the United States, or, for that matter, of the entire world, has shown the rapid growth as that part of the Southwest traversed by the Missouri, Kansas & Texas Railway system. With the passing of the plains as a cattle country and the successful demonstrations regarding the soil, this portion of the country has become a farmer's paradise. When the "Katy" road was constructed through the State of Oklahoma, then known as the Indian Territory, the best portions of the country, from an agricultural standpoint, were selected by the engineers who surveyed the line. The country at that time was sparsely settled by white people, and was strictly an Indian reservation. Within the last few years all this has been changed, the vast and valuable agricultural lands of this section have been open to the public and is being rapidly filled with prosperous farmers and industries.

During the year just closed there has been a more noticeable improvement and development of this section, due in a great measure to the organization of commercial clubs in all towns, which have been unusually effective in exploiting the resources and advantages of the new State. In this work of exploiting the different commercial clubs have had the co-operation of the industrial departments of the railroads, and nothing has been left to chance in the work of putting the facts regarding the conditions and advantages before the people of the North and East. Every immigrant that comes to the Southwest leaves friends in the North and East that are only waiting for the first comer to prove the truth of the claims set forth by these commercial clubs and industrial agents of the railroads. In almost every case one immigrant is good for several more families than his own, thus making an endless chain of immigrants coming to the Southwest.

In all new countries the industrial development naturally follows the immigrant, and the work along this line had been remarkable for the fact that at every point where a new industry has been in demand there has been Eastern and Northern capital ready and willing to make the necessary investments. Large cotton crops demand gins and compresses. The enormous wheat, corn and small-grain crops have called for mills, and the industries have been in every instance ready to meet the demand.

The portions of Missouri and Kansas traversed by the Missouri, Kansas & Texas Railroad have during the last 12 months enjoyed a greater development than for several years, but as in all older States, the development has not been so marked as in new and less-important localities. The recent development of oil and gas in both of the older States have added greatly to the increases in manufacturing industries, which have been attracted by the cheaper fuel. This increase in manufacturing industries throughout Southern Kansas has increased the population of the smaller towns very rapidly, and where formerly villages existed there are now beautiful cities, with all the latest and most modern improvements, such as water-works, lighting systems, paved streets and sewerage.

Along the "Katy" line, particularly in the mountainous portions of Missouri, there has been recently an enormous influx of foreign immigration, composed of dairy-men, fruit-growers, etc. This mountainous section is particularly adapted to the fruit-

growing industry, and is known the world over as the "big red apple country."

The agricultural and industrial development in the State of Texas for the past year has shown a wonderful increase. Some idea of the State of Texas may be had from the following figures:

The gross income of Texas amounts to \$1,302,505,000 annually, divided as follows: Agriculture, \$561,339,000; manufacturing, \$124,600,000; mining, \$16,500,000, and increase in property and property values, \$600,000,000.

Texas has an increase in wealth of \$225 per capita per annum; \$3,600,000 per day; \$150,000 per hour; \$2500 per minute; \$41 per second.

It is estimated that the agricultural wealth of Texas can be increased by the following methods: Increasing the area of cultivated lands, increasing the production per acre and increasing the market price of products. In analyzing each of these subdivisions the uncultivated area is considered first.

Texas has 167,865,000 acres of land. Of this acreage there are 2,118,000 acres of water surface and 165,747,000 acres of land surface. All of the land surface is susceptible to a high degree of cultivation except a very small percentage, which is mountainous and is used for grazing purposes. There is less than 30,000,000 acres of land under cultivation, leaving 137,865,000 acres of uncultivated land which has never been plowed. This will give the reader an idea of the opportunities yet awaiting capital seeking investment, as well as home-builders. While much has been done in recent years in the way of development, yet opportunities are still as great, if not greater, than they were in previous years, when lands were cheaper, and when demand for same was not so great.

The Texas farmer is already trying to do too much, farming more land than he can properly cultivate. The average Texas farm contains 357 acres, while the average farm in the United States contains 146 acres. One farmer cannot successfully cultivate more than 50 acres of land unless he employs help, which, of course, means another farmer. On this basis Texas needs 3,000,000 more farmers, which would mean an increase in the population of 15,000,000 people.

Through the St. Louis and Kansas City gateways it is estimated that the Missouri, Kansas & Texas Railway alone brought during the past year 24,000 immigrants, principally to Texas and Oklahoma, while a small percentage of them were located in Missouri and Kansas. A large percentage of these have located and are now permanent residents of these States. It is estimated that 190 people move into Texas daily and remain permanently. That is an increase of 125,000 in the population per annum in Texas. There are 122,000 births per annum in Texas, there are 43,734 deaths per annum, leaving a natural gain of 78,266 in population per annum.

In the southwestern portion of the State the development of tropical fruit farms has shown a very rapid growth, and is fast becoming one of the important agricultural industries of the State. It is thought by experienced fruit-growers as well as some of our leading citizens that South Texas will rival California as an orange-growing country, with the distinct advantage of a much earlier crop for the market. The principal tropical fruits that have proven the most successful in this district are oranges, grape fruit, figs and kumquats.

The fig industry is growing fast; already there are a number of preserving plants in operation, and more are needed to care for the rapidly-increasing production. The unprecedented demand for the Satsuma orange and the grape fruit in the Northern markets has made these crops of the most valuable in the tropical fruit region, and the luscious fruit is receiving increased attention.

Truck farming is also being rapidly developed in Texas and Oklahoma. It is impossible at this time to give exact figures as to the number of acres planted to fruit along the line in the past year, but thousands of acres and hundreds of orchards have been planted out at the various points along the line. To give some idea as to the increase in the fruit and truck industries, 10 years ago this company only handled about 200 cars during the season, while the year past more than 2000 cars were shipped over the line of the Missouri, Kansas & Texas.

In the southern portion of Texas onions that rival the Bermuda product in beauty and flavor are being produced in great quantities. In many sections of the Southwest preparations have been made by the most progressive farmers for irrigating the lands.

While the railroads have done much to bring about this prosperous condition in the South and Southwest, they have had the hearty co-operation of the local business men's organizations, such as commercial clubs, chambers of commerce, boards of trade and the United States Department of Agriculture, as well as many other interests.

The following figures will give an idea as to the development of manufacturing industries: There were established along the line of the Missouri, Kansas & Texas Railway during the fiscal year 374 new industries, requiring an expenditure of about \$8,500,000, employing 10,000 people, with an average value of each plant of about \$22,000. There was an increase in the location of manufacturing plants of 224 over the previous year. It is also estimated that about \$5,000,000 have been expended in improving the conditions of existing industries.

The present outlook for a more rapid development is very flattering. Conditions generally all over the Southwest seem to be most favorable at this time, and more rapid development is expected all over the Southwest in the near future.

Dallas, Tex.

Some Methods of Securing Better Roads in the South

By E. E. MILLER, Managing Editor, *Progressive Farmer*, Raleigh, N. C.

[Written for the Manufacturers' Record.]

According to a recently-issued circular of the North Carolina Geological and Economical Survey, there are in the State of North Carolina 46,850 miles of public roads. Seven hundred and fifty miles of these roads are macadam, 466 gravel, 456 sand-clay. In other words, less than 4 per cent. of the roads of the State have any right to be classed as improved roads. Some Southern States might show a slightly larger per cent. than this, but in most of them the percentage is probably even smaller.

It is worth noting, too, that of the 750 miles of macadam roads, 190 miles—over one-fourth—are in one county—Mecklenburg county, of course. This county has an enviable reputation all over the country for its good roads, yet there are in Mecklenburg 850 miles of public road, of which 600 are unimproved. Indeed, it is only in a comparatively few counties here and there over the South that there is sufficient mileage of improved roads to have any apparent effect upon the industry or the life of the community. There are literally hundreds of counties in the South without one mile of road which can be counted on in all kinds of weather. The typical Southern road is a clay road, hard and smooth possibly in dry weather, but a long series of ruts and mud holes in wet weather, or a sand road where teams must pull hard to draw a moderate load at all times and seasons.

The reason that there are not more good roads in the South is, of course, the same reason that prevents the building of good roads everywhere—the notion that good roads cost too much; that the community can't afford to build them. This idea has been supplemented by another almost equally erroneous—the common notion that a good road necessarily means one built of stone or gravel. The cost of building any particular mile of road can, of course, be determined only by a careful survey and estimate by an engineer, but the cost of building good roads in the South has been greatly exaggerated in the public mind. Madison county, Tennessee, built 24½ miles of macadam road of the best quality for \$115,681.71, or about \$4773 per mile. At Uniontown,

Ala., an object-lesson road 12 feet wide, of six-inch macadam, was built for \$2460 per mile. And over the South the cost for macadamized roads has varied from \$2000 for a nine-foot roadbed to three or four times this amount.

Of course, the cost of macadamizing is much smaller in the mountainous sections, where good stone for road building is near at hand. But the extra cost of grading in these sections brings the total cost of the roads up to as high or higher figures than in the more level sections.

Where gravel beds are available, as they are in many sections all over the South, roads almost as good as macadam can be built for one-third to one-half what macadam roads will cost. In Richmond county, Georgia, good gravel roads have been built for from \$1500 to \$1600 a mile, where the freight on each carload of gravel amounted to \$5.50. Greenville county, Virginia, has built good gravel roads at a cost of approximately \$1000 per mile. Where the gravel beds are near the surface of the ground and in hauling distance of the road it is probably a safe estimate to say that in a level section a road with a good 12-foot gravel bed can be constructed for from \$1000 to \$2000 per mile.

The sand-clay road, which Mr. Leonard Tufts, president of the Capital Highway Association, pronounces superior to macadam, has been built in Richland county, South Carolina, for \$400 per mile, and the average of four sand-clay roads in North Carolina and three in Florida was, according to Prof. Maurice O. Eldridge, \$639 a mile.

This is what it costs to build roads. What it costs to go on working the road according to our present system no one is able to determine. But it has been well said that we of the South are paying enough to have good roads and are at the same time doing without them. Commissioner of Agriculture H. E. Blakeslee of Mississippi estimates that with even moderately good roads in that State it would have cost last year \$126,000 less to market the cotton crop. This \$126,000 would have built 210 miles of sand-clay road at \$600 per mile, or would have paid 5 per cent. interest on \$2,520,000—enough to

have built over 4200 miles of similar road. This is, of course, only one item in the long bill which the bad roads of Mississippi force the citizens of the State to pay. It needs only a few such instances as this to make it plain that our present roads really cost the average taxpayer more than would a road tax sufficient to keep them in good condition.

Probably even more convincing evidence is to be found in the experience of counties which have built good roads. The writer does not know of one instance where a county has started into the work of road improvement without going on. This is true even in those cases where the first money devoted to road improvement was injudiciously spent. Two of the counties mentioned—Mecklenburg, in North Carolina, and Madison, in Tennessee—are shining examples that good roads pay, and these counties have gone on from year to year spending more money to build roads, and have received rich returns for the money thus spent. It is said that in Jackson county, Alabama, the average price of farm lands since the building of good roads has increased from \$15 to \$30 an acre. In Bradley county, Tennessee, where the first issue of bonds for road building was so popular that the policy has been continued ever since, the average value of farm lands per acre has doubled.

In another Tennessee county, Hamblen, with a population of less than 15,000 and an area of about 200 square miles, a first issue of bonds amounting to \$50,000 was secured by a very close vote after a very hot contest. Two or three years later \$50,000 more was invested with very little opposition, and now, two or three years later, the county has just voted a \$200,000 bond issue for road building. In this county, too, the roads built are macadamized, and come rather high. In each of the cases there was (whether deservedly or not does not concern us) considerable criticism of the manner in which the money was spent, but in each case it was so evident that the investment was a good one that a large majority of the people have been willing to continue the work. The building of good roads has paid the people of these counties, or else they are deficient in business sense. That this is the case it would be hard to convince the man who has seen the price of his land go from \$25 to \$50 an acre—as hundreds of acres in these counties have done—simply because the road running by this land has been changed from a steep, rocky or muddy one to one smooth and hard and dry in all sorts of weather.

Indeed, it is no longer a question as to whether it pays to improve the highways. The only people who still think that bad roads are cheaper than good roads are those who have not seriously thought of the matter or taken the pains to investigate. That there are such people yet is undeniable; but that they cannot be persuaded to investigate and to study the matter is unthinkable. The problem of how to get good roads in the South has resolved itself into two propositions:

1. The facts in the case must be presented plainly and vividly to all the people. Nothing else will be necessary to make them eager for better roads.

2. The question of the kind of road to build and of the best methods of obtaining the money with which to build these roads must be worked out for each county or district by men who are at once familiar with local conditions and well versed in the science of road-making.

When the growing appreciation of the fact that even in those cases where a district cannot afford to have macadam roads it is practicable to make roads at a cost entirely within the reach of even sparsely-

settled sections—roads over which good loads can be drawn at all seasons of the year it is going to be much easier to arouse enthusiasm for better roads and to secure action along this line. If the individuals and the organizations who are now working for better roads would put all their energies into a concentrated campaign of education: (1) Finding out as nearly as possible what the different kinds of road could be built for in their respective communities, and (2) then presenting the evidence to be obtained from the experience of those counties which have improved other roads, the appeal would be irresistible to all except the chronic standpatters and the hopeless mossbacks. Good roads can be had only by the co-operation of a majority of the voters in any county or district, and it is an unprogressive county, indeed, where the majority of the voters cannot be persuaded to go to the expense of making them when once they come to a realization of what these highways will mean to them.

The matter of road building must be gone at in a businesslike way, and in each case advantage must be taken of and the work adapted to the peculiar characteristics of the locality in which the road is to be built. In the foothill counties bordering the Appalachians will be found many places where gravel beds are easily available, and here the gravel road may be the best to build. Over a large territory, embracing the sandy districts of the Atlantic and Gulf States, the sand-clay road can be built at a cost which will put it within reach of counties which could not afford macadam or gravel, and in these thinly-settled districts, where the traffic is light, this road may answer just as well as the higher-priced roads. Of course, those roads which must bear heavy traffic and run through densely-populated and prosperous districts should be macadamized. The kind of road to build is, in fact, a matter which should be settled by expert testimony, and wherever there is a doubt it would be well for the local officials to consult with the State authorities (in those States where there are such), or with the good-roads office of the National Department of Agriculture at Washington.

It is useless to expect good roads all at once over all the country, or to expect the best type of roads in all sections. A good road for any neighborhood is that road which will make traffic rapid and easy, and which can be built and kept in order without being a burdensome task on the people of the neighborhood. While it is true that the tax levied by bad roads is more than any that is likely to be assessed for good roads, still it is sheer folly as a business proposition to spend \$3000 or \$4000 per mile on a road where one which would serve the purpose of the community equally well can be built for \$1000. Good roads may come to a particular community as the result of a campaign of enthusiasm, but to the country at large they may come only as a result of a long, patient and persistent campaign of education. Road building will be a gradual process of evolution, as all really great improvements have been, and the success of any campaign for better roads will in the long run depend largely upon the amount of plain business sense with which the campaign is conducted in the primary work of convincing the majority of the people that good roads are a paying proposition. Neither is it worth while to expect backward communities to change all at once their old habit of getting along with paths made of rocks and mud holes and to levy upon themselves any adequate tax for building good roads. This is impossible, simply because these people have not

yet realized what really good roads are worth now what the present makeshifts cost them.

It is in making plain to them these facts that the great value of the model roads built by the national office of good roads has resided.

In the matter of legislation, aside from that of a purely local nature, there are two or three things of primary importance in this fight for better highways.

In the first place, we shall never have decent ways for travel while the old labor system is in operation. As Governor Sanders of Louisiana has recently said, it has been tried in that State and in many others for 100 years, and it has never yet resulted in good roads. The reasons for this are that the men who work the roads under compulsion are interested mainly in getting through with as little labor as possible, and that when the work is directed, as it usually is, by one who has no knowledge of road building, it is more than likely to be of very little permanent value. Not until some system of taxation is substituted for this fundamentally unjust and inefficient system will the roads ever be put in good condition.

Right here, too, comes in the necessity for some system of State oversight and State co-operation. Where the roads are left entirely in the hands of the local authorities, and each county or township is a law unto itself, it is useless to expect any permanent improvement. Every State should have a good-roads official whose business it should be to collect all data in regard to roads of the State, to the conditions to be met in their improvement and to the ability of the districts in which they are suited to improve them. This work, the importance of which should be manifest to even the most casual observer, has been utterly neglected in most Southern States. In North Carolina Dr. Joseph Hyde Pratt has shown how useful such a State office may be. And his work makes it evident that the State should go even further and co-operate both in men and money with those counties or districts that are trying to build better roads. It would be a paying investment for the State, and at the same time a wonderful encouragement to the more progressive and inspiring communities. Much has been said about the desirability of national aid for local road building, but until the States show their willingness to take a part in this work it is scarcely likely that the nation will do much.

Another thing which could be done by every State, and which would enable the South to build roads at the lowest possible cost, would be to put all criminals who are able to do such work on the public highways instead of hiring them to contractors or employing them in work which comes in competition with that done by free labor.

Of course, convicts under a life sentence, or even those with sentences of 10 years or more, might be more safely confined in prison walls, but there is no reason why all prisoners with less than 10-year sentences should not be put to work on the roads, either by the State or directly by the counties in which they have been convicted. This work, if carried on under proper supervision, will not only enable the States and counties to build roads at very little cost, but will be much better for the prisoners themselves than much of the work in which they are now engaged, and will do away with the graft, and cruelty which have so often disgraced the lease system. Prof. J. A. Holmes of the United States good-roads office has figured that the average cost a day of convict labor in the different Southern States is as follows:

Florida, 30 to 50 cents; Georgia, 16 to

32 cents; Kentucky, 50 to 60 cents; Louisiana, 50 to 60 cents; Mississippi, 15 to 45 cents; North Carolina, 15 to 40 cents; South Carolina, 17 to 22 cents; Tennessee, 20 to 40 cents; Texas, 20 to 40 cents; Virginia, 25 to 50 cents.

Is not this a much better way of securing labor for the roads than the old plan of requiring each man within a certain age to work three or four or five days on the road under conditions which usually led him to believe that his work amounted to nothing anyhow—as it usually did—and which therefore encouraged him to kill time with all his might and so result in leaving the road in about the same condition in which he found it?

This campaign of education for a better system of working the roads needs to be supplemented by a similar campaign of education along the lines of better methods of road work. The average road supervisor seems to have not the slightest idea as to the importance of drainage. That the main thing in keeping the road in good shape is getting rid of the water which falls upon it seems never to have entered his mind. If the men who are primarily responsible for the condition of the roads and those who are supposed to be leaders of public opinion in their respective communities could be made to realize that so long as the road is kept smooth and hard, so that the water which falls upon it will run off immediately, the roads throughout the Southland would improve 100 per cent. in one year. The appreciation of the value of simply carrying the water under the road instead of over it, of a ditch which leads the water away from the roadbed instead of alongside of it, of an unbroken slope from the crown of the road to the sides so that the water may freely drain off, would soon work wonders. The simple split-log drag would, if used with judgment and persistence, make over thousands of miles of country roads and change them from stretches of mud holes and ruts into decent ways of travel.

Prof. J. W. Fox tells how in Greenville, Miss., at a cost of \$100 per mile in the shaping of the streets, and an annual cost of \$25 per mile in running the drag over them, streets which had been almost impassable whenever it rained were put into good shape. He says that there were many of the streets there where in wet weather a team could scarcely pull an unladen wagon, but after the use of a split-log drag there is no time when two mules cannot easily pull a ton. This experience has been duplicated in dozens of instances, and could be duplicated in hundreds and thousands if the men who have charge of the road could only be persuaded to make drags and put them to work.

We cannot hope to prevail against the tyranny of "King Mud" without an educational advance which shall make plain to the men who keep up the roads the necessity of having the highways in charge of competent men and the folly of attempting to keep a road in passable condition while the water is allowed to stand on it, and it will pay any county of ordinary population and wealth to employ a competent engineer who has had actual experience in making roads to devote his whole time to the supervision of the county highways. While the roads are under the oversight of men who know little or nothing of practical road construction, and who may or may not be interested in the work they are doing, we can scarcely hope for much progress.

These, then, are the things we must do: We must establish co-operation between the States and the counties or the townships, to the extent at least of making the expert service, which the State is able to procure and which the local districts often

are not, available to every locality; we must make the men who have charge of the roads realize that the fundamental problems of all road building is drainage, and we must change the old roads to those of a higher type just as rapidly as we can afford to do so.

The fundamental problem is one of education. When the people of the South, especially the farmers of the South, come

to realize what bad roads cost them they will cease to tolerate them, and it is the duty and the privilege of every newspaper, of every teacher, of everyone who has anything to do with keeping up the roads or who is for any reason regarded as a leader of public sentiment, to join in this campaign of bringing to every man a realization of the advantages which would come to him by the improvement of his road.

ounce. Only five-sixty-fourths ounce of water was absorbed.

The fact that the pats were never immersed in water and showed no evidence of checking or cracking, and became hard, would indicate that the emulsified oil had held the water in the mortar, and that such mortar was, therefore, both non-evaporative and non-absorbent, which would tend to show that concrete in which mineral oil has been mixed would not be likely to contract, and therefore contraction cracks avoided.

Under the theory of Professor Bauschinger, which has been demonstrated by Professor Swain in the laboratory of the Institute of Technology, Boston, neat cement when set and hardened in air contracts and that this contraction increases with age up to a certain period, possibly six months or a year. One part Portland cement, three parts sand hardened in air shows contraction, but less in proportion than neat cement. The results also prove that neat cement when hardened under water shows a slight expansion, while mortar composed of one part Portland cement, three parts sand, hardened under water, shows expansion, but less in proportion than the neat cement. Reducing these conclusions to figures and taking the average results obtained by various authorities, figuring the expansion and contraction by percentage the following are the results:

Neat Portland cement hardened in air at the end of 16 weeks shows .15 per cent. contraction.

One to three mortar hardened in air at the end of 16 weeks shows .05 per cent. contraction.

Neat Portland cement hardened under water at the end of 16 weeks shows .07 per cent. expansion.

One to three mortar hardened under water at the end of 16 weeks shows a .015 per cent. expansion.

Mixing oil with concrete from the meager tests so far made would seem to indicate that the oil held the water in the mortar, keeping the cement particles wet and thus furnishing the same conditions as if set under water; hence very materially assisting, if not altogether obviating, contraction cracks and hair cracks or crazing. Furthermore, the resulting mortar appears to be far less brittle, and therefore such treatment should admirably serve the purposes required of concrete retaining walls, foundations enclosing cellars, tanks, cisterns, etc.

Exhaustive tests have been made by a number of authorities on the action of oils on concrete. The effect of oil on concrete and the effect of oil emulsified in concrete are two separate and distinct subjects.

We are informed by reliable authorities that concrete immersed in animal or vegetable oils will in time disintegrate, and that concrete immersed in mineral oils is unaffected. In the first instance there was no chance for the oil to emulsify; in the latter the oil is separated into minute globules. A large field of usefulness is ready for oil mixed and emulsified in concrete. The emulsion takes place after the oil is mixed with the wet concrete, and not before, as has been done in a patented article.

A mere casual glance at the uses of Portland cement concrete would indicate that oils mixed with the concrete would prove very desirable for dustless, waterproof floors for office buildings, for slaughterhouse non-absorbent floors, impervious concrete drain tile and sewers. If the experiments to be carried on in the future prove that mineral oils in the course of time are not disadvantageous, the drain-tile problem has been solved, for there can be no action of the alkalies or other injurious

elements to non-absorbent, dense and impervious concrete.

Such concrete will be particularly desirable for silos. Some of the acids formed by the silage in the bottom of the silo would probably not attack a dense, non-absorbent, impervious concrete.

Contraction cracks will be eliminated in cisterns, drinking troughs, live-stock feeding floors and platforms. Some objection may be raised to the use of oil-mixed concrete from the standpoint of its liability to flavor the water or the food. If we stop to consider that the oil is divided into minute globules, thoroughly emulsified, we will see that while there may be some odor there is not likely to be any taste after the drinking trough, feeding floor or cistern has been in use for a few days.

Such oil-mixed concrete will be effective for liquid manure cistern for the reason above described. It will also be particularly adapted to terrazzo floors, the great objection at present being due to contraction cracks. A white oil may be mixed with Portland cement, white sand and water and used for the purpose of setting brick and stone. It being non-evaporative and non-absorbent, no efflorescence or stain can occur. In fact, such concrete can be used in any work not requiring extraordinary compression strength, and in which the concrete does not come in contact with heat.

One of the particular advantages will be for stucco work and exterior plasters.

It would seem that this idea of mixing oil with wet mortar was novel and new, but like many discoveries, it only proves to be a rediscovery. In the first century, A. D. Marcus Vitruvius Pollio, the famous Roman architect, gives the following detailed specifications for stucco: "A mixture of well-hydrated lime, marble dust and white sand mixed with water, to which mixture is added either hog's lard, curdled milk or blood."

In A. D. 1280 at Rockingham Castle, England, melted wax was mixed with the mortar.

In A. D. 1324 in the work of King Edward II at Westminster pitch was mixed with mortar.

The permanency of the Roman stuccoes may be partially accounted for by the use of oil mixed with mortar. Although Vitruvius used hog's lard, an animal oil, the mortars have withstood the action of the centuries, and in places where freezing temperature occurs in winter and great heat in summer. However, the hog's lard must have been very thoroughly emulsified by the action of the hydrated lime. Portland cement was unknown at that period.

In this connection I would like to suggest the following specifications for stucco, the third or finish coat:

One part Portland cement, 20 per cent. (volume of cement) of hydrated lime, three parts coarse white sand. First dry-mix the sand and cement, and with this mix dry hydrated lime, turning each three times with shovels; rake while shoveling. Add water, turning and raking until the desired consistency is obtained. Then add 15 to 20 per cent. of white oil petrole, the oil to be by weight in percentage to the weight of the cement. A gallon of oil petrole weighs $7\frac{1}{2}$ pounds. Apply this mortar while the scratch coat is damp, and as soon as scratch coat is firm enough to stand the pressure or plastering. If it be desirable to tint the stucco, color the oil with any limeproof coloring matter, in proportion which by experiment with small samples is necessary to give the desired tint.

A white non-volatile mineral oil is suggested for stucco and for mortar to be used in setting white marble or light-colored brick, on account of the color possibilities. For concrete where the color is not essential the heavy black bituminous

USES OF MINERAL OILS MIXED WITH CONCRETE

By ALBERT MOYER, Associate American Society Civil Engineers.

[Written for the Manufacturers' Record.]

The mixing of mineral oil with concrete is very simple. The oil, alkalies and water will form an emulsion becoming thoroughly incorporated in the concrete. If the concrete is to be mixed by hand, proceed as usual, and after the water has been added, the resulting mass turned and raked, add non-volatile mineral oil in proportion of 10 to 15 per cent. of oil to the weight of the cement. Turn the concrete with shovels two or three times, raking while turning; the oil will quickly emulsify and become thoroughly mixed in the concrete.

If machine mixing is employed, use a batch mixer, turning a sufficient number of times to thoroughly mix the cement, sand, crushed stone or gravel and water. Then add 10 to 15 per cent. of non-volatile mineral oil. Turn again the same number of times as it requires to mix the concrete. The oil will quickly emulsify and become thoroughly incorporated in the concrete.

Oils added to concrete in proportion of 5 to 15 per cent. will slightly delay the initial and final set. Increasing the proportion of oil will further retard both the initial and final set and hardening, but up to 15 per cent., from experiments so far made, it would seem that the retarding of hardening will not be sufficient to cause the work to be uneconomical.

The tensile strength will necessarily be reduced, and with the increasing percentages of oil toughness will be slightly diminished, but not in proportion to the increase in the percentage of oil used.

An extremely interesting paper was read at the meeting of the Association of American Portland Cement Manufacturers at the Hotel Astor, New York, December 15, 1909, by Logan Waller Page, director, office of public roads, Agricultural Department, Washington, D. C., on the subject of the possibilities of Portland cement as a road material, in which he described some investigations being carried on by Dr. Allerton S. Cushman in the laboratory of the office of public roads to ascertain the practicability of mixing semi-asphaltic base oils with Portland cement concrete, with the object of obtaining the desirable properties of both Portland cement and asphaltum. So far only pats and briquettes have been made; the results so far obtained show ample strength for ordinary work; six-inch cubes will be tested later.

It is believed that compression tests will show greater strength than the usual relation of compression to tension. This is a matter for further investigation, and it is to be hoped that chemists and cement testers will actively take up this work and carry on investigations covering long-time periods.

Tensile strain tests should be discarded. Such tests have now been discarded by the German Portland cement manufacturers and compression tests substituted. With the increased scientific knowledge and the consequent better material produced by Portland cement manufacturers tensile strain tests have become obsolete, and owing to the brittleness and extreme sensitiveness of neat Portland cement the un-

oils to the light non-volatile petroleum oils are successful. They are cheap, and their name is legion. Do not use oils containing organic matter, and positively avoid, at least for the present, and until further experiments have been made, vegetable or animal oils, as they are liable to form an acid, which, in turn, may disintegrate the concrete.

Lime, sand and animal oils have stood the test of centuries. Portland cement and animal oils have not yet had this opportunity. It is within the range of possibility that the test of time may prove contrary to the theory and animal oils emulsified be found not dangerous.

MID PLENTIFUL MATERIAL.

Many Industrial Advantages at Texarkana.

[Special Cor. Manufacturers' Record.]
Texarkana, Tex., January 3.

No other city in the United States occupies a position on the map similar to that of Texarkana. Like Kansas City, it is on the very line dividing two States, but unlike that city, it is very near the corners of four States—Texas, Arkansas, Louisiana and Oklahoma—each corner at or near this city, and with railroads radiating in seven or eight different directions, the manufacturing and wholesale establishments have easy access to all four of those States. In addition, Red River is navigable to this point, thus giving perfect transportation facilities. Manufactured products can be loaded on river steamers and delivered to ocean ships at New Orleans at a minimum of cost. Merchandise from foreign countries can also be delivered here by the same route. There is no other Texas town or city, situated off the Gulf coast, possessing this double advantage of transportation.

The various railroads entering Texarkana carry the products of the many manufacturing establishments to every point of the compass, and thus make this one of the most attractive situations for the manufacturer to be found in any part of the great Southwest.

But the bare fact of possessing good transportation facilities alone would not make it a desirable location for factories. That, however, is not the only advantage presented here. The limitless forests of merchantable timber of all four States mentioned are easily accessible to Texarkana. Indeed, they are now being used to a limited extent, but the field for other industries requiring large amounts of wood or lumber is practically untouched.

The extensive iron-ore deposits of Cass, Marion and Harrison counties, Texas, are right at her door, so to speak, and with water transportation to bring the coke, Texarkana could easily be made a great iron manufacturing city. With four great States to supply, this would be a magnificent position for such an industry, and is worthy of consideration by practical ironmongers. Being a city already of nearly 25,000 people, the labor question is very favorably conditioned for the establishment of large manufacturing industries. In addition to that, there is sufficient wealth in the city to join with outside capital in such enterprises.

There is also a variety of clays here for the manufacture of various articles of commerce, such as building brick, fire-brick, vitrified paving brick, and a vast amount of potters' clays. The latter is now being used to a considerable extent, but not a tithe of what might be profitably used.

Texarkana is well situated in reference to fuel. Besides being in a heavily-timbered section, she is also near a number of coal fields, the McAlester, Okla., and Fort Smith, Ark., coal fields especially. Besides, the various lignite fields of Texas are in easy reach. But just now the people

here are enjoying the use of natural gas, and being very near the Caddo oil field, and also on the pipe line running from the Tulsa (Okla.) oil field to the Beaumont refineries, it is not probable there will be any lack of both gas and oil for many years to come. Thus it is apparent that right here is to be found every condition favorable for the building of great industries, and the people invite thorough investigation of conditions, and also stand ready to co-operate with those seeking suitable locations for such. While on the question of fuels, and especially as used for burning all kinds of brick, it may be of interest to the reader to say that some time ago the question of using natural gas for the purpose was taken up, and upon investigation it was learned that, with coal at \$3 per ton and gas at 15 cents per 1000 feet, the cost of gas was found to be just one-half that of coal. Not only that, but it was found that the gas made a brick much superior to those burned with coal, while the color was also better. But Texarkana is now getting gas on the basis of only 10 cents per 1000 feet for manufacturing purposes, and that for small users, whereas large manufacturing enterprises are offered a considerable reduction from that price as an inducement to locate here.

With the immense resources of hardwood accessible to Texarkana, it offers excellent opportunities for the establishment of furniture factories. This particular field is a most inviting one, and worth careful investigation.

The manufacture of wagon timbers is another branch of industry which would find this a splendid field. Within a radius of 100 miles there are immense forests of hickory, white oak, ash, elm and bois d'arce, which, by the way, is one of the most valuable wagon timbers known, and which is quite plentiful in Arkansas, thus making this the logical location for a large wagon factory.

But it must not be supposed that because Texarkana invites more manufacturing industries that she has none already. For, in fact, there are now no less than 30 factories of various kinds, but most of these are on a comparatively small scale. Some idea of the value to the city may be obtained from a statement that the aggregate payroll of all these industries amounts to about \$200,000 per month. Besides these, there are nine wholesale establishments doing an immense volume of business annually. Seven banks and trust companies take care of the surplus cash and help to uphold the hands of the men who are helping to make Texarkana an important industrial center.

Of the eight or nine railroads entering the city, several of which are trunk lines, an annual payroll is maintained amounting to more than \$1,500,000, and that, added to the payrolls of all the manufacturing establishments, swells the total to approximately \$4,000,000.

Another feature which tends to encourage various manufacturing enterprises is the fact that living here is probably as cheap or cheaper than in any city of its size in the United States. This is easily accounted for. Texarkana is situated in the midst of one of the best all-round fruit, truck and agricultural sections of the Southwest. Practically every kind of field crop grows abundantly here, and fruit and vegetables do as well here as anywhere in this country. Cattle and hogs are raised here quite extensively all through this section, thus providing everything needful for food purposes. Besides, fuel is abundant and cheap. Water of the best is furnished to every part of the city, and there is now over 15 miles of mains, most of which are 8 up to 12 inches diameter. The works are owned and operated by a private corporation, who are said to have put the

annual surplus right back into the system, thus keeping fully abreast of every requirement of this rapidly-growing city. I am informed that during the last three years they have put fully \$250,000 into betterments of the system. The source of supply is artesian wells. Two pumping stations are maintained, and when a fire-alarm is given both stations are immediately put on and maintain a minimum pressure of 75 to 85 pounds. Nearly 150 fire-plugs are maintained, most of which are connected with the larger mains.

Thus it is apparent that manufacturing industries can depend upon the very best of fire protection.

The city is now putting down a large amount of street paving, and many miles of concrete sidewalk are already in evidence. One might think that because the city is located on a line between two States that possibly there may be that character of rivalry which would tend to retard the upbuilding of the material interests of the city. I want to say that this is not the case here. But I have yet to find a city where there is greater harmony in everything pertaining to the upbuilding of their general interests, nor have I yet found a people who appear to be more desirous to encourage new enterprises.

Two commercial organizations are here, each of which stand ready to lend a helping hand in anything having for its object the betterment of their general welfare. The Boosters' Club, of which Jas. Collins is president, George J. Gray, secretary, and Ralph G. Moore, chairman of the advertising committee, are the directing spirits of this organization, and will take pleasure in giving information to interested parties about anything relating to commercial or industrial lines.

WM. C. CLOYD.

CHICAGO'S ELECTRICAL SHOW.

Brilliant Exhibit Representing Many Millions of Dollars.

[Special Cor. Manufacturers' Record.]
Chicago, Ill., January 17.

The fifth annual Electrical Show given by the Chicago Electrical Trades Exposition Co. was opened last Saturday under the most favorable auspices.

Last year and in 1908 the outlook for improved business conditions was anything but promising, while the year 1910 starts off with every prospect of its equaling or even exceeding in volume of business the record year of 1906. This feeling is reflected at the Electrical Show in two ways. In the first place, the entire floor space of the immense Coliseum building, consisting of about 35,000 square feet, has been sold to exhibitors, and as a matter of fact more space could have been sold had it been available. In the second place, the attendance promises to eclipse in numbers that of any of the preceding shows, this being indicated by the fact that on the opening day there were in attendance over 10,000 people.

The Coliseum has been gorgeously decorated for the occasion, the color scheme in general being gold. The Electrical Trades Exposition Co. maintains a reputation from year to year of sparing no expense in the creation of a scheme of general decoration, the construction of booths and the lighting effects.

Following the plans of the last two years, these details have been placed entirely in the hands of D. H. Burnham & Co. of Chicago, one of the country's leading architectural firms.

Of all the various trade shows that are held in the Coliseum from time to time throughout the year, none approach the annual electrical shows in electrical plan and beautifully designed decorations, not only in the massive roof of the building, but in the general scheme, which includes the booths and lighting. This scheme of

decoration has never before been attempted on such an elaborate scale. Thousands and thousands of yards of tinted streamers are suspended vertically from the vast roof of the building, and six powerful searchlights at either end of the wall cast their concentrated rays in varying colors upon the streamers, making the general effect one of startling magnificence.

Some idea of the splendid manner in which the decorative scheme has been carried out may be had from the statement that the cost of booths and decorations, including the electrical work, was about \$40,000.

The exhibits represent many millions of dollars, many of the largest and most important electrical concerns of the country being represented. Here may be found everything that is new in the field of electrical invention, including apparatus and appliances required for practically every known branch of the industrial world, thereby proving of great interest as a whole to the public at large and of especial interest to the man who wants to increase the product of his factory and lessen the cost of production. The exhibit is educational in its character, and serves to promote the use of electricity for all purposes. Many of the exhibits are of a working character, giving the visitor a much better idea of the appliances and devices shown than could be secured from any literature on the subject. The Show, therefore, not only creates a general public interest in electrical applications, but also gives the laymen new ideas requiring the use of devices that otherwise would not be brought to their attention. This is strikingly emphasized by the manner in which is exploited the newest applications of electric motor drive for every conceivable purpose, the great improvements and advances being made in the electric-lighting field and many other branches of this most interesting industry.

One of the most unique exhibits of the Show this year, and one that is attracting the attention of every visitor, is the famous Wright bi-plane, which made the trip from Alexandria, Va., to Fort Myer, Va., with Wilbur Wright in charge, accompanied by Lieut. B. D. Foulois. Lieutenant Foulois is in charge of the exhibit, and is kept busy answering questions regarding the machine.

Among those exhibiting are: American Sign Co., Kalamazoo, Mich.; American Telephone & Telegraph Co., New York; Allis-Chalmers Company, Milwaukee, Wis.; American Steel & Wire Co., Chicago, Ill.; American School of Correspondence, Chicago, Ill.; Bishop & Babcock Company, Chicago, Ill.; Commonwealth Edison Company, Chicago, Ill.; Crane Company, Chicago, Ill.; Chicago Pneumatic Tool Co., Chicago, Ill.; Chicago Fuse Wire & Manufacturing Co., Chicago, Ill.; Cutler-Hammer Manufacturing Co., Milwaukee, Wis.; Dunton Manufacturing Co., Chicago, Ill.; Driver-Harris Wire Co., Harrison, N. J.; E-Z Vacuum Cleaner Co., Chicago, Ill.; Electro-Magnetic Tool Co., Chicago, Ill.; Empire Vacuum Co., New York city; Electric Storage Battery Co., Philadelphia, Pa.; C. G. Everson & Co., Chicago, Ill.; Excello Arc Lamp Co., New York city; Fairbanks, Morse & Co., Chicago, Ill.; Fort Wayne Electric Works, Fort Wayne, Ind.; G. M. Gest, New York city; General Electric Co., Schenectady, N. Y.; General Vehicle Co., Long Island, N. Y.; Hahl Automatic Clock Co., Chicago, Ill.; Hamer-Eddy Smoke Recorder Co., Chicago, Ill.; Hoskins Manufacturing Co., Detroit, Mich.; Hoover Suction Sweeper Co., New Berlin, O.; Mathias Klein & Sons, Chicago, Ill.; Kimble Electric Co., Chicago, Ill.; Keller Manufacturing Co., Philadelphia, Pa.; A. W. Kratz, Chicago, Ill.; Macbeth-Evans Glass Co., Pittsburgh, Pa.;

Milwaukee Vacuum Machinery Co., Milwaukee, Wis.; National Electric Lamp Association, Cleveland, O.; Henry Newgard & Co., Chicago, Ill.; Nohe Electric Renovator Co., Chicago, Ill.; Pelouze Electric Heater Co., Chicago, Ill.; N. L. Schlueter, Chicago, Ill.; Stromberg-Carlson Telephone Manufacturing Co., Rochester, N. Y.; Studebaker Bros. Manufacturing Co., South Bend, Ind.; Telechronometer Co., Rochester, N. Y.; Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.; Western Electric Co., Chicago, Ill.

The many details necessary to make a show of this kind a success were admirably handled and were under the direct management of Homer E. Niesz, assisted by C. R. Macloom.

JOHN GLASS.

The Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., January 17.

The past week started off with very satisfactory sales of pig-iron, one furnace company having sold 4000 tons for delivery over the first half of 1910 on basis of \$14.50 per ton at the furnace. There were also some sales made of small tonnages for prompt and first quarter delivery at \$14 per ton at the furnace. By the middle of the week considerable iron had been booked and more caution used as to placing additional business at a lower price than \$14.50 per ton base. Three of the largest pig-iron producers in the district are practically out of the market, and solicitations are not being made. It is but fair to say that \$14 iron is not so plentiful as was the case some weeks ago, due to the fact that inquiries are better (showing a disposition on the part of buyers to cover their needs), and further from the fact that production will not only be materially curtailed in January, but be off some 20,000 tons per month for the next 90 days or longer. Some of the iron companies are showing considerable reduction in stocks, and the warrant iron will have been reduced in tonnage by the end of the month from 10,000 to 12,000 tons. There was a small tonnage of gray forge offering during the week, but it was taken very promptly at 25 cents per ton premium over No. 2 foundry basis. The melt, so far as Southern manufacturers are concerned, is comparatively large, showing a healthy condition prevailing in that direction. A canvass of the situation reveals the fact that a total of 7000 to 8000 tons of iron were sold by different interests the week just ended.

There has been practically no change in the cast-iron-pipe market for the past week, it being characterized only by small shipments. It is only a matter of time before heavy municipal lettings will come up. Inquiries are brisk, and buyers are evidently sounding the market pretty thoroughly, thus taking advantage of the present season. Considerable Southern business is in sight, as well as the middle and extreme Western trade. Prices have not advanced, but are firm, as follows: Four-inch, \$25 per net ton, f. o. b. cars here; 6-inch, 8-inch and 10-inch, \$23; 12-inch and over, average of \$22 per ton, with a dollar a ton extra for gas pipe. Fittings, \$60 per ton at the shop.

Old material has taken on some more activity, in keeping with improved conditions in the pig-iron market, but prices have not advanced. Dealers have been stocking considerable scrap during seasonable weather, and do not seem inclined to sacrifice it at reduced prices. Following prices are quoted, per gross ton, f. o. b. cars here:

Old iron axles, \$20 to \$20.50.

Old iron rails, \$15.75 to \$16.25.

Old steel axles, \$17.75 to \$18.25.

No. 1 railroad wrought, \$14 to \$14.50.

No. 2 railroad wrought, \$12 to \$12.50.

Dealers' wrought, \$12 to \$12.50.

Old steel rails, \$12.50 to \$13.

No. 1 machinery, \$12.50 to \$13.

No. 1 steel, \$13 to \$13.50.

Old standard car wheels, \$13.75 to \$14.25.

Light castings, stove plates, \$9.75 to \$10.25.

Cast borings, \$6 to \$6.50.

FOR THE SOUTH'S WELFARE.

A Florida View of Our Issue of January 6.

Board of Trade,
Miami, Fla., January 10.

Editor Manufacturers' Record:

The special issue of your excellent journal has duly arrived. Its contents are of a most interesting and instructive character, and I am pleased to state that this number as a whole is the greatest collection of most valuable information concerning the past and present industrial condition of the South that has ever appeared in print.

Your editorial on the phenomenal increase of the material wealth of the South will act as an inspiration for our people to bend their energies on the further development of the resources of this favored section of the United States and thus demonstrate to the world that the "hookworm," with its attendant evils, is an unknown quantity as far as the South is concerned. The dissemination of such knowledge as that which is contained in this editorial will forever check the advances of our philanthropically inclined friends, whose attempted patronage, if accepted, will ultimately place our people in the unenviable position of servile dependence.

Every one of the contributors to this issue deserves the highest form of credit for his valuable suggestions and advice. Hon. G. W. Koiner aptly says that "the greatest need in our South today is people with energy and good morals." We certainly need more people—the kind this well-informed writer suggests; people who will appreciate the grand opportunities met with in every direction of this vast and as yet but partially developed country.

To secure this desirable element for our South it is well for our transportation companies to digest the significant utterance of another of your able contributors, Mr. Clark Howell, whom I here quote:

"We have here an imperial heritage more versatile and more productive than that bleak Canada, which annually summons 75,000 sturdy American immigrants. We are pleading with the Southern railroads and the Southern people to rouse from their lethargy and bring these roving Westerners and Easterners down to an empire of the richness of which they have not even been informed."

The Southern railroads should awake to their opportunities and become active in diverting the tide of immigration which is now directed toward a land which could not be compared to that of ours. Here is a work for our commercial bodies to take up. They should unite in urging the railroads to adopt a most liberal policy with reference to the homeseker. These commercial bodies cannot find a more fruitful field for their activities than that of endeavoring to bring new settlers to their several localities. To this should be added unceasing effort in the interest of improved waterways, as suggested by another of your interesting writers, Congressman Joseph E. Ransdell, who says:

"Every community in the Union, whether located on a watercourse or many miles in the interior, will be greatly benefited, directly or indirectly, when our general waterway system is an accomplished fact, and all should assist in securing it."

As a matter of fact, the subject of im-

migration and that of water transportation is practically one proposition. The influx of immigration is much greater in localities possessing waterways than is the case where none exist. This is borne out by our own experience in the settlement of this part of Florida. The prospect of an improved harbor at Miami brought dozens of citrus groves into existence, the owners of which are busily occupied in making water transportation available, thereby securing more reasonable railway freight rates. This industry, by the way, is assuming large proportions, and it is only a matter of time when Dade county and the Miami district will be known as the greatest citrus-fruit producing area in the State of Florida. The article in this number of the MANUFACTURERS' RECORD on the citrus-fruit industry, written by Mr. J. H. Reese, is a very conservative outline of its present condition and its bright future.

With best wishes for the success of the work your paper is doing in the interest of our Southland, I remain,

Sincerely yours,
ISIDOR COHEN,
Secretary.

From other quarters comes many pleasant messages bearing upon our special issue. Some of them follow:

President W. J. Edwards, Gulf Line Railway Co., Sylvester, Ga.:

"I appreciate very highly the magnificent service your periodical is doing for the South and the great energy it is displaying. The same deserves the hearty support of all Southern industries. Your edition of January 6 is a most creditable one, and I am sure is very greatly appreciated by all enterprising Southerners."

"I am very much gratified to know that there is a decided exodus from Northern and Eastern sections of farmers and home-seekers into the South at the present time, encouraged through the medium of such periodicals as yours. The prejudice against the negro and the South heretofore existing seems to be fast disappearing, which is largely due to the splendid efforts displayed by the MANUFACTURERS' RECORD."

Clarence B. Douglas, general secretary Muskogee Commercial Club, Muskogee, Okla.:

"I desire to congratulate the entire South on having as an exponent of its resources such an earnest and able advocate as the MANUFACTURERS' RECORD, and want to compliment you in the highest possible terms on your recent special edition. It is a perfect encyclopedia of facts and figures, and will be of incalculable benefit to the section of the United States you so ably represent. I am quite sure that such efforts as you are making to develop the latent resources of the South must be highly appreciated, and feel that your publication should and will be universally recognized as the most important factor in the wonderful development that now seems coming to the Southland. It shall have a permanent place in the records of this association."

Earl Lay of W. P. Lay & Co., real estate, Gadsden, Ala., to Mr. Y. A. Dyer, Birmingham:

"I want to congratulate you on the splendid article that appeared in the MANUFACTURERS' RECORD of the 6th, and also thank you for the copy you sent me. I have been very busy since the first, and did not have an opportunity to look over the MANUFACTURERS' RECORD until some time after it had been received. Father is just back from a trip to Washington and New York in the interest of the Coosa River and his private projects. He told me last night that copies of the MAN-

FACUTERS' RECORD were being used to advertise the advantages of our district, as set forth in your splendid article. Your contribution will, therefore, be read with interest not only in our land, but in several countries across the water. I think it makes decidedly the best showing of any contribution to that edition, which is unquestionably the best of its kind that ever appeared."

C. L. Kemper, the Wm. Eads Miller Company, real estate brokers, Leesburg, Va.:

"I have been very much impressed with some of the facts presented in your special issue of January 6, and most sincerely congratulate you for the excellent work you are doing for the South. Such articles as are found in this issue cannot fail to have their effect upon the thousands who are thinking of the Southern possibilities today. It is grand to read of the progress going on in our South now, and affords most interesting speculation as to its future. You say 'for the good of the South we wish these facts could be placed before every intelligent man and woman in the rest of the country,' though to do so would result in 'such activity as was never witnessed before in America.' Hurrah for the South!"

J. M. Head, industrial agent Texas City Transportation Co., Texas City, Tex.:

"I want to thank you, as well as compliment you, for getting out such an elaborate and attractive edition, bearing, as it does, directly on the growth and development of the South, and particularly the article by Mr. Phenix on the 'Sweep of Commerce Toward Gulf Ports,' as I believe this one of the strongest articles that has ever been written on this subject, and will contribute immeasurably to the development and growth of this section. The number of other articles by the eminent writers bearing on this and allied subjects are indeed praiseworthy. The illustrations are well selected and of the very best to show the actual development portrayed by them."

Mr. J. A. Arnold, president Texas Commercial Secretaries' Association, Fort Worth, Tex., writes to the MANUFACTURERS' RECORD as follows:

"Your paper has done a great work for industrial development, and the accurate information and reliable statistics furnished concerning the South's resources have resulted in making us more prosperous and wealthy."

E. H. Heinrichs, the Westinghouse Companies' Publishing Department, Pittsburgh, Pa.:

"Allow me to express to you my sincere admiration and appreciation of your splendid issue of January 6, which I have looked over with a great deal of interest. I cannot call to mind any publication which, like yours, makes the exploitation of the South its business and does it more successfully. In my opinion, the entire South owes you a debt of gratitude for the manner in which you represent the interests of that section of this country."

J. W. Roberts & Son, Havana cigar-makers, Tampa, Fla.:

"We have received the MANUFACTURERS' RECORD and wish to compliment you very highly on the excellent write-up of the Tampa cigar industry."

Mr. H. B. Wood, president Standard Lumber & Manufacturing Co., Birmingham, Ala.:

"Permit me to express my very high appreciation of your issue of January 6. It is the most comprehensive issue of its kind I have ever seen gotten out by anyone, and I fully believe will be the means of

bringing millions of dollars in the shape of permanent investment into the Southern territory. If only 5 per cent. of the business people of the United States could read this issue of the MANUFACTURERS' RECORD over from cover to cover there would be such an influx of people and money into the Southern States that we would hardly have a place to put them."

George B. Edwards, president Southern States Development Co., New York, N. Y.:

"Permit me to congratulate you on the New Year January 6 issue of the MANUFACTURERS' RECORD, which is really a wonderful piece of work for the South. As a means of educating the public of this entire country as to the enormous possibilities of the South there is no publication that can compare with the MANUFACTURERS' RECORD, for the reason that it is not a 'boomer,' but every statement it makes is based on facts and figures that have been carefully verified before being published. This fact is now so generally known and recognized that any facts or figures published in the MANUFACTURERS' RECORD are now accepted everywhere as correct and true beyond any question."

Mr. J. S. Kuykendall, secretary Board of Trade, Winston-Salem, N. C.:

"Permit me to congratulate you on the excellent production of the last issue of the MANUFACTURERS' RECORD, which will rapidly hasten the harvest of our ideals on the development of the South."

Mr. John J. Wilmore, dean of the School of Engineering, Alabama Polytechnic Institute:

"I beg to acknowledge with many thanks the receipt of the MANUFACTURERS' RECORD of January 6. It is a magnificent production, and is of infinite value in promoting industrial interests of the South. I think I fully appreciate its value."

Charles Catlett, chemist and geologist, Staunton, Va.:

"I have been on such a rush that I have not had time to express my admiration of your special issue. It is great."

National Cement Users.

The preliminary program of the Sixth Annual Convention of the National Association of Cement Users, to be held at Chicago, Ill., February 21-25, includes the following addresses:

Address of welcome by Mayor Fred A. Busse of Chicago; response by President Richard L. Humphrey; addresses by Christian C. Kohlsaat, president Lewis Institute, Chicago; John M. Ewen, consulting engineer, Chicago; annual address by President Richard L. Humphrey; "The Use of Concrete for Farm Buildings From the Sanitary Standpoint," by S. Cunningham, Jr., New York; "Laying Concrete Under Water—Detroit River Tunnel," by Olaf Hoff, consulting engineer, New York; "Comparative Value and Cost of the Groined Arch in Large Reservoirs," by T. H. Wiggin, senior designing engineer, board of water supply, New York; "Concrete for Maritime Structures," by Chandler Davis, department of docks and ferries, New York; "Application of Concrete in Barge Canal Work," by R. S. Greenman, resident engineer, Albany, N. Y.; "Additional Notes on Use and Cost of Concrete for Small Houses," by R. C. Knapp, Philadelphia, Pa.; "Advantages and Costs of Reinforced Concrete Construction," by J. P. H. Perry, Turner Construction Co., New York; "Cost and Advantages of Concrete Drain Tile," by J. H. Liberton, Universal Portland Cement Co., Chicago; "Installation and Operation of a Steam Curing Plant," by F. S. Phipps, Central Stone Co., St. Joseph, Mo.; "The Preparation of Concrete—From Selection of Materials to Final Disposition," by

Harry F. Porter, consulting engineer, Bridgeport, Conn.; "Reinforced Concrete Columns," by Robert A. Cummings, Pittsburgh, Pa.; "Reinforced Concrete Columns," by Peter Gillespie, University of Toronto; "Use of Concrete in Protecting Wooden Pile Against Tornado," by Ralph Barker, assistant State engineer, San Francisco, Cal.

In addition to these, reports will be read showing the progress made during the year by the following committees of the association on various subjects of interest to cement users:

Roadways, sidewalks and floors, C. W. Boynton, chairman; specifications for cement products, W. P. Anderson, chairman; machinery and appliances, L. V. Thayer, chairman; art and architecture, F. A. Norris, chairman; exterior treatment of concrete surfaces, L. C. Wason, chairman; concrete and reinforced concrete, A. B. Lindau, chairman; building laws and insurance, W. H. Ham, chairman; specifications for fireproofing, R. P. Miller, chairman.

Every indication is pointing to the fact that this will be the largest-attended convention that has been held since the organization of the association, and as considerable progress has been achieved by the various committees looking to the standardization of the uses of cement for various purposes, the proceedings should prove of decided interest and advantage to those attending.

As the association will hold its annual convention this year at the same time the Cement Show of the Cement Products Exhibition Co. is in progress, the association abandoned the exhibit which is usually held in conjunction with its proceedings and joined forces with the Cement Show, which promises to make the latter the greatest exhibition of cement products ever held in the country.

MAY COST \$3,000,000.

Plans for a Great Terminal at Oklahoma City.

[Special Cor. Manufacturers' Record.]

Oklahoma City, Okla., January 13.

At a meeting of the representatives of the Chicago, Rock Island & Pacific, Missouri, Kansas & Texas, Santa Fe and Frisco railways at the office of Mayor H. M. Scales recently, plans were submitted and the preliminary steps taken toward erecting a terminal station that may cost \$3,000,000. Plans for proposed viaducts and terminals were discussed at length and copies were furnished the railway officials, who, after a conference of several hours, heartily agreed in the details as submitted and expressed hearty desire to co-operate in every way possible with the city officials in rushing to completion the plans incident to the erection of the big station.

In effect, the plan of the Mayor and the City Engineer provides for the removal of all grade crossings on the main lines of each railroad, the confining of local shipping to the hours between midnight and 6 o'clock in the morning, the running of main lines through the more remote districts of the city, crossings to be made either overhead or underneath to avoid conflict with street railway, pedestrian and common traffic, and the establishing of a union station into which all city passenger trains will run.

Freight yards centralizing traffic to specified districts close into the union station where will be brought passenger travel are also fully included in the plans. It is estimated that the cost to railroads for the changes and erections will be \$3,000,000, and at least \$250,000 to the city railways.

All passenger trains will use the old river bed for trackage coming into the station under grade of the streets, thereby doing away with any possible accident or

blockade. This changing of the river bed of the North Canadian River allows its use at a very small cost. All of the freight-houses being grouped parallel and with a space of at least 100 feet between them will simplify freight handling and go a long way toward preventing any possible congesting of freight cars. This freight yard is planned on the gravity system, this being the system now used in all large yards, or at least being adopted by all. The switchman can set a large freight train in less than five minutes, where at present it takes several to do that work.

Another very important feature in the changing of the river bed is the fact that all of the streets running east and west in the city may be extended uninterruptedly, and also the street may run south through the city and to Walnut Grove, a suburb, without interruption, thereby opening up a large territory for industrial purposes and enable workmen to have homes near the city; in fact, closer than any other location possible.

GEO. SAUNDERS.

APPALACHIAN FORESTS.

Effects of Inroads of Lumbermen Upon Them.

The inroads upon the forests of the Southern Appalachian mountains by the various lumber companies are strikingly set forth by Rev. Dr. A. E. Brown, superintendent of the mountain school department of the Home Mission Board of the Southern Baptist Convention. Dr. Brown was born and reared in these mountains, and has devoted his life to the religious and educational development of the mountain people. During his work he has established a system of 26 mission academies. His work has brought him into close touch with all of its people. His knowledge of existing conditions in that section is a first-hand one, and he feels great apprehension as to the future of this mountain country, owing to the destruction of the forest areas. In an interview with the MANUFACTURERS' RECORD Dr. Brown said:

"When I first started my work in these mountains, 30 years ago, when the forests were untouched, the mountains were full of sparkling brooks and creeks which required a two or three weeks' rain to make muddy; today, a few hours' rain will make muddy them. The Swannanoa River, which used to be a beautiful clear stream, is now muddy for most of the year. In Kentucky and Tennessee many of the mountain streams are dry throughout the summer and fall, while in winter the waters descend in torrents and do vast damage, rendering worthless the bottom lands, which used to be the most desirable for farming purposes.

"Nearly all of the large boundaries of timber lands are now owned by outside companies. They have never been timbered by any methods that tend to conserve the forests for the future. These companies cut practically every tree from 12 inches up, and are utterly indifferent to the interest of the natives. In removing the timber they have paid no attention to young growths. Such young growth as has been left is now being cut out for pulpwood, and the young chestnuts are being cut for the tannic acid which they contain, so that between the pulpwood and tannic-acid manufacturers the forest sections are being completely devastated.

"Even the balsam forests on the tops of the mountains, which heretofore have been safe from lumbermen, because of their inaccessibility, are now being cut. The pulp mills have built flumes to the top of the mountains and cut the balsam trees into blocks and float them out down the flumes. The destruction of these trees means that this area will never be reforested, because

it takes generations to produce a balsam forest.

"Unfortunately, the men who owned the timber lands did not seem to realize they had any other value beyond what they could get for them from the lumbermen, and as the lumbermen had no other interest other than to get out of the timber lands all that was possible, no thought was given to the effect which the cutting of the timber may have on the mountain regions or looking to reforesting the area.

"While this work, of course, has given employment to the natives of the mountains since it has been going on, it is destroying the future for them, because the sides of the mountains have been denuded of their top soil and the bottom lands have been overflowed and swept away, thereby destroying their value for agricultural purposes.

"I know areas containing hundreds of acres of lands which used to be most fertile and valuable, and which are now practically worthless. This does not apply alone to restricted lands, but can be seen through all parts of the Southern Appalachian mountain district.

"Moreover, the lumbermen seem to have been against the State passing laws to restrict the manner in which their work should be done, and have worked against such laws that will tend to curb their methods of cutting.

"These are some of the great changes that have taken place, all due to the lack of intelligent cutting of timber lands. Those who have destroyed the forests have reaped the only benefit; those left behind, the natives, will have to bear the brunt of this work, and the results are not only felt by them, but extend down into the lowlands, so that no man can hardly estimate the great damage that has been done.

"Gathered from an experience extending over a long period, these few thoughts will give some idea of the great damage being inflicted upon this section and represent the feelings of one who has a deep interest in the situation.

"It certainly seems to me that if the Government is not going to create a forest reserve in the Southern Appalachian mountains at an early date it ought to enact at once laws requiring the cutting and getting out of the timber in an intelligent manner, and in a way that will not altogether destroy what is left of these formerly magnificent forest areas."

The Appalachian Engineering Association has arranged to meet next April at Winston-Salem, N. C. The officers are Messrs. E. A. Schubert of Roanoke, president; Baird Hallestadt of Pottsville, Pa., vice-president; Dr. Henry M. Payne of Morganton, W. Va., secretary; C. E. Krebs of Charleston, W. Va., treasurer.

The Maryland Steel Co., Sparrows Point, Md., has begun to make shipments on an order of 14,000 tons of rails for the Public Works Department of Western Australia. The first shipment is about 5000 tons per steamer *Strathnairn*.

An attractive folder has been published by the Board of Trade of Miami, Fla., illustrating by means of a number of half-tone engravings and a mass of condensed facts the advantages of Miami and its immediate territory.

Between 1905 and 1909 South Carolina added nearly 1,000,000 spindles to its textile equipment, bringing the total to 3,846,117, nearly six times the number of spindles in the 14 Southern States in 1880.

It is reported that Mr. Frank James of Galveston is endeavoring to encourage farmers of the coast country of Texas to equip themselves for individual canning of fruits and vegetables for the markets.

CURRENT EVENTS AS VIEWED BY OTHERS.

THREE GOVERNORS ON GOOD ROADS.

[Governor Austin L. Crothers of Maryland.]

The Legislature of 1908 passed what is known as the Good Roads law, its purpose being to improve the main arteries of public travel throughout the State. The commission appointed, as authorized by the provisions of this law, visited all the counties of the State, and after conferring with the people of each laid out a system of State highways for improvement.

In addition to the laying out of this system, they have surveyed 431 miles of roads and have contracted for the construction of 108 miles, 75 miles of which have been graded and 43½ miles have been completed.

The contract price was higher than anticipated, although not higher than similar roads in other States, when it is remembered that the price here includes all bridges, which is not always included in the prices of roads in other States. The roads contracted for were in width 14 feet and depth of macadam 8 inches, except in some of the Eastern Shore counties and in Southern Maryland. The same character of roads in Massachusetts cost that State on an average of \$10,000 a mile.

The importance of this work cannot be overestimated in its economy for our agriculturists and others who have to use the public highways and the increased comforts and convenience of our people in the enhancing of the value of property and in the development of the resources of the State.

Laws have been passed in many States of the South providing for convict labor on the public highways, and it has worked most successfully and great improvement of the public roads has resulted. By doing this a return can be made for the money expended in maintaining prisoners in jail and in other prisons throughout the State, and would be much better for the prisoners themselves that they have such open-air employment, instead of being confined in prison idle, where they frequently become victims of tuberculosis and mental diseases.

I, therefore, strongly recommend the passage of legislation enabling this to be done, which should be of a character which would prevent any abuses to the convict when engaged in such work, and that would prevent their escape, and should be broad enough in its provisions to permit the road authorities to avail themselves of its use for any kind of road work, either on improved roads or repair of the ordinary dirt roads of the State.

The transportation of material is another item which adds greatly to the expenses of public road construction. Any way by which reductions could be made in this expense will greatly lessen the cost of roads.

The owning and operating of quarries by the State from which material could be supplied as required at the lowest possible price is another means by which reduction in the cost of roads could be much effected.

I recommend that the commission having charge of the supervision and building of roads under what is known as the State Aid law and other laws—the highway division of the Geological Survey—be abolished, and that the whole work on all our different systems be placed under the control of the State Roads Commission. It is all one general subject, and the administration cost would thereby be greatly lessened when only one department instead of two is kept up. Complications would

be avoided, the bookkeeping simplified and many other practical advantages secured.

This great work of public road improvement, that means so much for the development of the resources of our Commonwealth, must be kept moving onward with all possible dispatch and economy.

Under the State aid system 38 miles of improved roads have been built. The reports of the State Roads Commission and highway division of the Geological Survey will be before you, containing detailed accounts of the expenditures and other information as to pikes, etc.

I would also recommend that in the different counties of the State where they have not already done so, a business system of repair of roads other than those comprising a part of the State system be adopted. Improvement along this line is more vital and important than improvement of the main State highways, which necessarily constitute a very small part of the roads used by the people in the transaction of every-day business. They should be repaired under the supervision of men skilled in that character of work. The roads would become smoother and better for public travel, and the repairs thus made would last longer and be less expensive than under the system now employed in many of the counties of the State.

[Governor Swanson of Virginia.]

The last General Assembly appropriated for this year \$250,000 for State aid to the improvement of public highways, to be expended in those counties that had not enjoyed the benefits of the convict road force during the year, and conditioned upon the counties furnishing an amount equal to that provided by the State. All the counties of the State except 10 have availed themselves of the provisions of this law.

The enactment of this law marked in this State the beginning of a broad, progressive and far-reaching policy of road improvement. Under its stimulating influence a deep, enthusiastic interest in road betterment has been created in every section. It has been instrumental in the construction of many miles of good permanent road, and has occasioned many miles more to be let to contract which will soon be completed.

To obtain its benefits many miles have been surveyed and applications are pending for many more surveys preparatory to the commencement of work. Twenty-two of the counties have elected to use this State aid in the erection of needed bridges. Twelve counties, encouraged by its provisions, have issued bonds for road improvement aggregating \$1,139,000.

When it is remembered that this act furnishing State aid has been operative less than one year, the results achieved are indeed wonderful. The work accomplished has far exceeded the expectations of the most sanguine. It has distributed its benefits justly and fairly to all parts of the Commonwealth. The law has been proven a practical success, and has ceased to be an experiment.

This General Assembly should make State aid to road improvement a permanent policy. It should set aside for this purpose a definite revenue derived from specific sources, to be available to the counties which comply with the conditions contained in the present law, which have proven effective. It should indicate, as far as it possesses power to do so, that this fund is for the future dedicated to this purpose. The benefits that would accrue

would be immense. The counties, knowing what aid they would receive in the future, could inaugurate a continuous, broad, well-defined system of improvement, and work requiring years for its completion could be safely undertaken. Adjoining counties could co-operate more beneficially and frequently. Counties desiring to issue bonds for road improvement could do so more intelligently and safely when they knew the amount that would be received in the future from the State to pay interest upon the bonds and for the retirement of the principal. The value of such bonds would be greatly enhanced, and thus could be sold to a greater advantage. Nothing would contribute more to road improvement than the adoption of this permanent policy.

I would suggest that the General Assembly set aside to be used under the provisions of the present law for State aid to road improvement one-half of the revenue derived from the franchise tax upon the gross earnings of the steam and electric railways of the State. Under this proposed measure the amount available next year for this purpose would be \$241,701.25. The revenue from this source greatly increases each year. The State would thus inaugurate a continuous and progressive policy of road improvement. Each receding year would witness greater aid, greater achievement. Our financial condition fully justifies this expenditure. The future material development and prosperity of Virginia are inseparably interwoven with the betterment of her public highways.

Besides, the increased value of lands occasioned by road improvement quickly returns to the treasury taxes in excess of the amount appropriated.

[Governor Noel of Mississippi.]

The profit, convenience and desirability of rural life will be incalculably promoted by the construction of good roads. Public interest in this important question is becoming general and earnest. Every reduction of time, labor and outlay in transporting persons and commodities to and from country homes increases the net income of their occupants. By making good roads where miserable excuses now exist the accessibility and value of farms will be greatly increased. Our prevailing methods of road-working are wasteful and obsolete, being practically the same adopted when Mississippi was first settled. Unskilled overseers, without experienced direction or supervision, with unskilled and conscripted labor, devote no more time nor effort, usually, than is necessary to escape criminal prosecution. Correct road construction is a skilled art, which can be successfully developed only by men trained for the business, men versed in the chemical conditions of soil with drainage, and the means by which the best available material can be most successfully utilized. Highways thus built remain in good repair, with reasonable attention. Our constitutional provision, section 170, giving boards of supervisors full jurisdiction over roads, is an obstruction which ought to be removed by amendment as a step toward the establishment of a fine highway system; but much can be done now by wise and advanced legislation.

The county contract system works fairly well where good judgment is used in its making and enforcement. Its success or failure is largely a matter of what discretion is exercised by supervisors. Desirable changes could be effected requiring more specific contracts, more complete performance and more skilled supervision.

Supervisors' districts, upon the clearly-expressed will of their taxpayers, ought to be authorized, through boards of supervisors, to raise funds by a bond issue, under careful limitations, for the betterment of their own roads. The United States Department of Agriculture, through its good-roads bureau, is studying the road construction and maintenance systems of all civilized nations, and willingly furnishes skilled and valuable assistance to local authorities. Their co-operation should be welcomed and utilized.

COTTONSEED.

[Greenville News.]

Farmers should have a care about the matter of seed cotton for the next crop. Cottonseed are selling at the extraordinary price of more than 50 cents per bushel. At such a price the natural impulse is to turn the seed into cash, for they never before reached any such price. It is estimated that something like 4,000,000 tons of seed are annually sold to the oil mills. The current price would make these about \$33 per ton; thus the marketable cottonseed crop is now selling at the rate of \$132,000,000 annually. A production of 10,000,000 bales of cotton means a production of 5,000,000 tons of seed. Twenty per cent. of the seed are generally not sold, but this year it may be different. Therefore, it is very important that every farmer should be on the lookout now as to where he is going to get cottonseed for the next crop.

SUBSTITUTES FOR MEAT.

[Richmond Times-Dispatch.]

The high price of meat is reacting against the use of meat, we are told. As the cost of beef, pork and even of smoked meat has soared, various brothers have been offended and have determined to eat no meat. When they could not secure the choice sirloin or the juicy rib roast at a reasonable figure; when turkeys grew prohibitive and other fowls passed beyond the reach of the average mortal, wise men eschewed meat altogether and have sought out good substitutes.

As a result, the advocates of vegetarian diet are having a long inning and are scoring triumphantly. They have brought forward a number of dishes which they solemnly promise to be as appetizing and as nourishing as meat at but a fraction of the cost. For example, they are again lauding the traditional white beans. Boston intellectual, these men insist, chose long ago the best of all foods, and insisted upon eating it, despite the gibes of the world. In this connection it would have been proper to praise that superior brother of the bean—the Virginia black-eyed pea. The omission of this viand, however, may be the result of ignorance rather than of malicious intent.

Rice is given the second place of honor among the substitutes for meat. It has properties which make it an ideal dish in some respects—a fact which is familiar to Southern people, and especially to those who have ever eaten real Carolina rice cooked by a Charleston cook. It may, however, be an innovation to the ignorant Northerners.

With rice, honey is being ranked as perhaps the most nutritious of all substitutes for meat. An ounce of honey is said to contain as much nutrient as a pound of meat, and is much more easily digested. Carrots are also heralded far and wide as a most desirable substitute. Not only are they heavy in the essential characteristics of meat, but they are guaranteed to give

the man or woman who eats them a splendid complexion.

Aside from the novel character of some of these new dishes, they have a real economic importance at the present time. Their general use, if possible, would be a great saving to the people. But while they may be introduced in certain localities, they will hardly solve the meat question. Tradition is strong; inherited tastes are real. Few workingmen will feel satisfied to do a good day's labor without their half pound of beef or their chops. The butchers need have little fear of the new substitutes.

ROYAL STYLE ABANDONED.

[*Florida Times-Union.*]

On Christmas Eve day President Taft went out shopping. He mingled with the crowds buying Christmas presents, went from store to store, gazed in the windows and enjoyed the occasion just like a human being. He rubbed elbows with the people, and though he was not guarded he was not assassinated once.

The President has taken a number of walks through the streets of Washington, and though it is the most natural thing in the world, it is so remarkable that whenever he walks the Associated Press flashes the news all over the country, and the larger papers get specials telling all about it.

We are pleased that we have a President who is not afraid. Mr. Taft's immediate predecessor posed as a desperately brave man, but while President he acted like an arrant coward. We do not charge Mr. Roosevelt with cowardice; we do not believe he was a coward, but he kept himself guarded as carefully as if he had been the Czar of Russia ruling over a country full of Nihilists.

If the care with which Mr. Roosevelt was guarded was not caused by the most unreasoning cowardice, it was caused by a desire to ape what was supposed to be the customs of royalty. And so, for seven years, the President was so closely guarded that when a new President acts like a man the fact is proclaimed all over the country as something remarkable.

No other man on earth holds a position as honorable as that of the President of the United States. Officially he stands on a pinnacle above all men. There are nations more populous than the United States, but their rulers are accidents, and would hold their positions if only one degree removed from idiocy. There are other Presidents raised to position through the votes of their fellow-citizens, but they do not represent so many people. The President of the United States holds the most honorable position on earth. He degrades it by imitating men who owe all to the accident of birth. He shows himself unworthy of it if he is puffed up by the honor conferred on him.

The President is an American citizen, and should go among the people as one of them. He is one of them; he owes his position to them, and he should not dream that he is a ruler by right divine. And he should not skulk around in terror of death. Three Presidents have been killed by cranks. No man should seek or accept the Presidency who feels on that account that he must surround himself by a bodyguard or be killed. If there is a risk to the position, no one not brave enough to face it like a man should be elected.

The Fort Worth (Texas) Cotton Oil Co. is circulating a pamphlet setting forth the value of cottonseed meal as food for horses, mules and poultry, and including an interesting address by President R. L. Heflin of the Texas Cottonseed Crushers' Association before the Cattle Raisers' Association.

THIRTY PLANTS IN OPERATION.

Coal-Mining Activities in the Vicinity of Pineville, Ky.

[Special Cor. Manufacturers' Record.]
Pineville, Ky., January 17.

Situated in the center of the Cumberland coal fields, with the Louisville & Nashville Railroad furnishing a north and south outlet, and numerous branch railroads radiating in all directions into contiguous territory, Pineville has developed during the past few years into one of the principle coal-mining centers of the Kentucky-Tennessee-Virginia territory. Probably 30 commercial mining plants are now in operation within a radius of five miles of this city, and new developments will increase the number. So great has the tonnage grown that the Louisville & Nashville company is now building a large amount of trackage to accommodate the coal trains and facilitate the movement of coal. Between Pineville and its neighboring town of Wallsend, popularly called South Pineville, several miles of sidings are being constructed, and the increased accommodations will enable the railroad company to avoid the congestions which have frequently marked the movement of coal in the past.

The geographical make-up of the surrounding country enables the extension of railroads into the coal developments at a minimum expense, and here greater progress has been made in more fully developing the rich coal veins which underlie the mountains than at any other point in Eastern Kentucky. The Straight Creek Railroad, extending out from Pineville into the coal territory of the Straight Creek Valley, was the first "feeder" to materialize. This line, six miles in extent, has been in operation for a number of years, and opens the territory to the north of this city. To the south two lateral extensions tap the vast coal fields of the Clear Creek country and the Greasy Creek field. The Chenoe Railroad, extending out the valley of Clear Creek for a distance of 10 miles, and the Greasy Creek extension, tapping the coal fields along the Bell-Knox border, constitute two of the most important "feeders" among the Cumberland Valley division of the Louisville & Nashville system. These lines, converging at Pineville, make of this city one of the most important coal-shipping centers in the entire field.

Along the Straight Creek Railroad the following operations have been established: Straight Creek Coal & Coke Co., Pineville; Straight Creek Colliery Co., Cary; Coleman Mining Co., Pineville; Left Fork Coal Co., Pineville; Straight Creek Coal Mining Co., Pineville; Central Coal Co., Pineville; Big Hill Coal Co., Blanche. The Left Fork and Big Hill companies have new operations. The Straight Creek Colliery Co. has been conducting operations for a year. The other operations have been established for some time. Recently the Left Fork Coal Co. acquired a large additional acreage, and is preparing to install new mines.

While more coal now comes out of the Straight Creek Valley than from any other branch line, the output will be largely increased with the completion of an extension into the Kettle Island district and the development of a large acreage held by the Neild and Campbell interests. This extension begins at the present terminus of the Straight Creek line and will run for several miles in a lateral direction. Work of extending the Wettle Island branch has been under way for the past year, and within a few months this new field will be ready for development forces.

The Chenoe branch, which taps the Clear Creek coal fields, was extended two years ago several miles, and along the new extension several new developments have been established. The Chenoe branch taps

the holdings of the Clear Creek Coal Co., the Poplar Lignite Coal Co., the Kelly-Irwin Coal Co., the Caney Creek Coal Co. and the Chenoe Coal Co. All these operations are among the largest in the district, and in the aggregate produce a large part of the coal tonnage which comes through this point.

The Greasy Creek extension leaves the Louisville & Nashville at Four Mile, four miles from Pineville, and gives an outlet for the production of three large companies—the Bell-Jellico, East Jellico and Elk coal companies. These concerns have headquarters at Bell-Jellico, Ky. The mines, while among the newest in the district, produce a large tonnage and are modern in every particular. The East Jellico Coal Co. formerly had a large development at Coalport, on the Knox county side, but having largely exhausted the workable seams there, began new operations on the Greasy Creek extension. The field tapped by this line contains a large amount of productive coal territory, and doubtless the near future will witness the establishment of new mines.

At Four Mile the Continental Coal Corporation, one of the largest development forces in the Kentucky fields, has four large operations. These are reached by a short extension to the north of the Louisville & Nashville line. The Continental Coal Corporation was organized last year, and consolidated the various smaller concerns into one. The company, which is capitalized at \$300,000, is composed of Chattanooga (Tenn.) and Kentucky men. Since its organization all the mining plants have been greatly improved, and a large sum has been expended in electric equipment.

Of the 30 or more coal-mining plants, one of the largest is that of the Wallsend Coal & Coke Co., owned by Kentucky operators, and on the main line of the Louisville & Nashville. This plant is the oldest in the district, and is one of the best in point of equipment in the State. A number of coking ovens are owned by the company and are operated a part of the time. The company has headquarters here.

The extension of the Wasioto & Black Mountain Railroad from this city into the coal fields of Harlem county is the most important development project under way. This line will extend up the Cumberland River Valley and across the upper portion of Bell county into the extensive Black Mountain fields of Harlan county. The railroad is backed by the Ashers, among the largest holders of coal territory in the South. Several large forces of men are pushing the construction of this line, and much of it is completed. The completion of this line will have an important bearing on the future growth of Pineville, as the coal territory to be opened is one of the richest in the South, the veins having thicknesses of three to eight feet, and being of superior quality. Two mines are now being opened on the completed end of the line.

Pineville, which is headquarters for most of the mining companies mentioned, is a modern, hustling city of 4000 population. Built with the idea of permanency, most of the business houses are of substantial brick and concrete construction, and many of the residences are of the best type of architecture. Broad concrete pavements cover the city, this being one of the many recent improvements. Among the utilities may be mentioned a water-works system, one of the first steps in the town's progress; a modern electric-lighting plant, recently reconstructed, following the destruction of the old plant by fire; an ice plant and two telephone systems. The lumber industry is a large contributing factor to the town's growth, as several large lumber mills give employment to

many. At Wasioto, two miles from Pineville, and close enough to be regarded as almost a part of this city, the Asher lumber mills are the largest in Eastern Kentucky. Among the new industries will be a barrel factory to be erected by the Asher interests, and which will give employment to 50. Construction work on this factory has started. The city's school system is one of the best organized in the State. A new building, to accommodate the combined city and county high schools, will shortly be erected. A Commercial Club and a progressive Civic League work together for the town's advancement and leave no stone unturned which will tend toward municipal progress along broad and liberal lines.

W. S. HUDSON.

TO MAKE HORSESHOES.

Scope of the Plant Projected by Ohio Capitalists.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., January 15.

The Birmingham Horseshoe & Rolling Mill Co., which is shortly to increase its capital stock to \$1,000,000, has been incorporated. The company is temporarily incorporated with an authorized capital stock of \$150,000.

The plant will be located at Gordon Heights, and contract for construction of the plant has already been let to the Birmingham Construction Co., work to begin at once on the horseshoe mill and cooperage plant, which will represent an expenditure of \$170,000. In addition to capacity of 400 kegs of shoes per day, there will be practically 100 tons of bar iron for the open market. The plant will be equipped with cinder bottom and busheling furnaces, 20-inch muck mill, 16-inch bar mill and nine-inch finishing mill, with full complement of heating furnaces. The entire buildings will be of steel construction, with concrete foundations. Machinery will be electrically driven. The plant will be located on about 24 acres of land, and will be reached by the Atlanta, Birmingham & Atlantic, Louisville & Nashville, Alabama Great Southern and Birmingham Railway, Light & Power railroads. The machinery used will be of the most modern type.

The president and vice-president of the company, N. K. Reed and W. T. Shipe, are from Middletown, O., where they are interested in industries kindred to that to be established here. The other officers and incorporators are T. R. McCarty of Birmingham, who will act as secretary; W. A. Porter of Birmingham, treasurer, and E. L. Penruddocke, consulting engineer.

According to the terms of the temporary charter issued, the company will begin business with \$50,000 paid in. As stated, the amount of stock specified is only temporary, and a certificate of increase of capital stock will be filed within the near future authorizing an increase to \$1,000,000.

It is the object of the new corporation "to manufacture and sell horseshoes, maintaining and operating for the purpose a rolling mill; to operate coal mines; establish and maintain pipe plants for the manufacture of pipes, and to manufacture and conduct a sale in spikes, nuts, nails, etc." In addition, a cooperage works will be established in connection with the rolling mill, the output to be used entirely by the company.

The same men backing the above enterprise are also at the back of the Birmingham Construction Co., which is to conduct, it is said, a general real estate improvement and development and a general construction business in connection with the rolling mill. The company is incorporated with an authorized capital stock of \$10,000, and will begin business under its charter with \$500 paid in. The officers and incorporators of the concern are the same as those of the above with the exception

of W. A. Porter, who is not included. Offices will be established in Birmingham.

SHIPPED TO SCOTLAND.

South Carolina Granite Sent Across the Seas.

Regarding the news at Charleston that the first shipment of its granite abroad by the Winnsboro Granite Corporation of Rion, S. C., was of 331 pieces of rough stone weighing 320 tons to London, for transportation thence to Aberdeen, Scotland, President R. G. Rhett of the Corporation wires the MANUFACTURERS' RECORD:

"The shipment to which you refer was our Anderson stone. It was purchased for monumental purposes and shipped to Aberdeen, Scotland. Samples sent some months since proved very satisfactory, and this order followed. It is to be distributed to a number of dealers in monuments. If it meets the approval which the original sample did, we have large orders to follow. We expect this stone to be placed both in Great Britain and the Continent."

Giving details of the shipment, the Charleston *Post* says:

"Eleven cars made up the train which brought the granite from the Anderson quarry of the corporation, a veritable mountain of stone, rising bare 90 feet, with a quarrying face of 1200 feet, being of the celebrated blue granite, 'the silk of the trade,' which the corporation has been shipping into 30 States and into Canada, and which is now making a market across the Atlantic.

"Strange to say, the first shipment of this justly celebrated granite of South Carolina should be made to a great granite section of the British Isles, suggesting the carrying of coals to Newcastle, but the importation of the granite into Scotland is a recognition of the superior grade of stone and the fact that the supply of granite of that country has been pretty well exhausted and the trade has turned its attention to the supply from South Carolina.

"The exporting of granite from Charleston is a new industry, and the opening up of the market for South Carolina granite is attributed to the efforts of B. H. Heyward, general manager of the Winnsboro Granite Corporation, whose headquarters are at Rion, S. C. It is expected that other shipments will follow, and in larger quantities, so that it will not be long before the steamships sailing from Charleston will carry the stone not as part cargo, but will sail with a large and exclusive clearance of South Carolina granite. The Montauk Point will take aboard a cargo of grain at Norfolk, leaving here for the Virginia port.

"The blue and gray granite of the Winnsboro Granite Corporation has taken prizes at several expositions. The quarries of the corporation are in full operation, and its product is being distributed over a wide section of the country, making a good financial return for its stockholders and giving employment to a large number of employees and adding to the industrial activities of the State. The officers of the Winnsboro Granite Corporation are R. G. Rhett, president; I. S. Cohen, vice-president; B. H. Heyward, general manager; A. W. Smith, secretary, and T. M. Waring, treasurer."

The address by President L. E. Johnson of the Norfolk & Western Railway Co. before the Toledo Transportation Club on the relation of value of railroads to rate-making has been published in attractive pamphlet form.

At the request of the Board of Trade of Little Rock, Messrs. Lund & Hill, consulting engineers, have undertaken to prepare a list of the swamp lands of Arkansas.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

The New Tryon Plant.

The Tryon (N. C.) Hosiery Co. has completed its dyeing and finishing plant and has it in operation. Its dyehouse is 25x100 feet, divided in three sections, and has an equipment of machinery for handling 1500 dozen pairs of hosiery every day. The finishing building is of reinforced concrete, two stories high, with one-story 50x60-foot addition for finishing room. From 50 to 75 operatives will be employed.

The Inverness Mills Co.

The Inverness Mills Co. of Winston-Salem, N. C., has been incorporated with a capital stock of \$150,000 by R. J. Reynolds, H. G. Chatham and others of Winston-Salem; Lawrence McRae of Spray, N. C.; James B. Duke and W. W. Fuller of New York, and others. This company will build a mill for manufacturing high-grade gray goods.

Beaver Dam Manufacturing Co.

The Beaver Dam Manufacturing Co. of Hartwell, Ga., has been incorporated by Elbert Fowler, John M. Wright and others. It has acquired the Witham Cotton Mills (recently mentioned as purchased by Asa G. Candler of Atlanta), and will increase the plant's capacity. Present equipment is 6000 spindles, 185 looms, etc.

The Elizabeth City Company.

The Elizabeth City (N. C.) Hosiery Co. contemplates erecting one or two additions and installing machinery for a new line of cotton hosiery. This company recently installed 65 additional machines, and was mentioned last week as increasing capital from \$30,000 to \$60,000 for improvements.

The Proposed Jackson Mill.

W. J. Massee, president of the Central Georgia Power Co., Macon, Ga., advises the MANUFACTURERS' RECORD that definite plans have not been formulated for organizing the company to build the \$650,000 Jackson (Ga.) cotton mill mentioned last week.

To Increase Weaving Facilities.

The Lowe Manufacturing Co. of Huntsville, Ala., will build an addition and install 200 looms. Its present equipment is 25,600 ring spindles and 270 narrow looms, producing yarns and madras shirting.

To Add 15,000 Spindles.

The Brogan Mill of Anderson, S. C., is planning an increase of capital stock in order to add 15,000 spindles and accompanying equipment. This company is now capitalized at \$500,000, and operates 25,000 ring spindles, 864 narrow looms, etc.

Correction.

We are informed that the American Spinning Co. of Greenville S. C., is paying a 10 per cent. annual dividend instead of a 5 per cent. dividend, as was stated in our issue of January 13.

To Build at Lowndesville.

J. P. Gossett, president of the Calhoun Mills, Calhoun Falls, S. C., and H. W. Kirby of Lowndesville, S. C., are forming

a \$250,000 company to build a cotton mill at Lowndesville.

Purchased Galveston Bagging Mills.

David Biggs of Kirkwood, Mo., has purchased the Galveston (Texas) Bagging Mills at \$100,000. He is said to contemplate modernizing the plant and putting it in operation.

The Senoia Duck Mill.

The Senoia Duck Mill of Senoia, Ga., has been incorporated with a capital stock of \$100,000 by L. Ware, Lee Hand, L. E. Arnall, N. G. Long and others.

For Cotton Rope and Twine.

Arthur Baker of Stamps, Ark., contemplates establishing a cotton rope and twine mill, and wants the necessary machinery.

Textile Notes.

N. C. Hines and associates of Cary, N. C., are forming a \$100,000 company to build a cotton mill.

It is reported that the Pearl Cotton Mills of Durham, N. C., will build a large bleachery for sheetings.

The Board of Trade, Monticello, Ga., is interested in the proposed organization of a \$400,000 company to build a cotton mill.

The sixth annual meeting of the National Association of Hosiery and Underwear Manufacturers will be held at Philadelphia May 16-20.

James F. Ryan of San Antonio, Tex., has a proposition from cotton manufacturers for the erection of a large cotton mill, possibly with 5000 spindles.

Thirty Miles of Cement Sidewalk.

An important public improvement now being planned by the municipal authorities of Pensacola, Fla., is the construction of 30 miles of cement sidewalk. This is the maximum quantity contemplated, and the minimum is 20 miles. The completion of this improvement will give the city a total of 60 miles of cement sidewalks. The Board of Public Works has instructed the city engineer to prepare plans and specifications for the improvements and to invite bids, which will be opened on March 2.

Building at Durham.

[Special Cor. Manufacturers' Record.]

Durham, N. C., January 17.

The close of the year shows unusual building for Durham, the inspector of buildings having issued 150 permits that amounted to \$2,544,286. The estimate is that there are going up every year in this city now 400 houses, none of which will be unoccupied one month in the year. The larger portion of these will be found in the suburban sections, and the city expands rapidly.

W. T. BOST.

Morris & Co.'s Oklahoma Plant.

Morris & Co. of Chicago have awarded all contracts in connection with their Oklahoma City plant, now in course of construction. They expect to have the plant ready for operation by next September, and will then have expended about \$3,000,000 for the enterprise.

The Raleigh Meeting.

State Geologist Joseph Hyde Pratt of North Carolina has called a meeting for January 27 in the rooms of the Chamber of Commerce of Raleigh for a general discussion of the best means of equipping the State with a system of first-class highways.

The Louisville Engineering Society has elected Messrs. W. B. Gregory, president; John Riess, vice-president; L. C. Datz, secretary; J. C. Haugh, treasurer, and Lyman C. Reed director.

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Richmond, Tex.—Fort Bend county voted \$150,000 bond issue for constructing macadamized road.

Contracts Awarded.

New Bern, N. C.—City awarded contract for 48,000 square yards of brick paving; \$60,000 appropriated.

Contracts to Be Awarded.

Birmingham, Ala.—Jefferson County Board of Revenue authorizes construction of road from Brighton to Dolomite.

Charleston, S. C.—Bureau of Yards and Docks, Washington, opens bids January 29 for road paving at Charleston navy-yard.

Fort Dade, Fla.—Constructing quartermaster will open bids January 26 for constructing granolithic walks.

Galveston, Tex.—City Commissioners authorized proposals for paving with vitrified brick on 25th street; cost about \$10,000.

Laurinburg, N. C.—City will lay 700 yards of cement sidewalk on Main street.

Mobile, Ala.—Board of Public Works approved plans for eighth paving venture; estimated cost \$300,000.

Mobile, Ala.—Louisville & Nashville Railroad opens bids January 22 for relaying 2700 square yards of granite paving.

Norfolk, Va.—City opens bids February 8 for repaving on Granby and Chapel streets.

Pensacola, Fla.—City opens bids March 2 for constructing from 20 to 30 miles of cement sidewalks.

Princess Anne, Md.—Somerset County Commissioners open bids February 1 for grading and macadamizing one mile of road.

Highway League.

The officers of the International League for Highway Improvement, which is to have its first annual convention at St. Augustine, Fla., January 26 and 27, are Messrs. John A. Stewart, New York, president; Albert Lewis, Bear Creek, Pa.; Eugene Masters, St. Augustine, Fla., and E. I. Leighton, Cleveland, O., vice-presidents; Harry L. Brown, St. Augustine, Fla., secretary; J. E. Ingraham, St. Augustine, Fla., treasurer; John H. Broad, Morrisville, N. Y., assistant treasurer; W. D. Forbes, New London, Conn.; Eugene Masters, St. Augustine, Fla.; Robert F. Maddox, Atlanta, Ga.; B. Cameron, Raleigh, N. C., and E. M. Whaley, Columbia, S. C., state vice-presidents, and J. H. Cooke, Montgomery, Ala.; Thomas F. Walsh, Denver, Col.; Charles G. Guyer, Wilmington, Del.; A. M. Taylor, St. Augustine, Fla.; W. A. MacWilliams, St. Augustine, Fla.; J. C. R. Foster, St. Augustine, Fla.; Judge William F. Eve, Augusta, Ga.; A. C. Mitchell, Lawrence, Kans.; J. F. Bosworth, Middlesboro, Ky.; Frank M. Kerr, New Orleans, La.; Townsend A. Ely, Alma, Mich.; Charles Scott, Rosedale, Miss.; E. C. Largey, Batte, Mont.; J. W. Fouts, Diller, Neb.; Vernon L. Sullivan, Santa Fe, N. M.; Charles W. Larmon, Salem, N. Y.; Joseph Hyde Pratt, Chapel Hill, N. C.; George W. Lattimer, Columbus, O.; Judge Lionel Webster, Portland, Ore.; Fred E. Perkins, Providence, R. I.; F. H. Hyatt, Columbia, S. C.; J. W. Parmley, Ipswich, S. D.; Chas. W. Gates, Franklin, Vt.; Charles T. Lasister, Petersburg, Va.; Howard Sutherland, Elkins, W. Va., and W. O. Hotchkiss, Madison, Wis., executive committee.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

WILL ENTER WEST VIRGINIA.

New York Central Alliance With Western Maryland Promises Great Development.

The Western Maryland Railroad and the New York Central Railroad companies have concluded a traffic agreement which will result in great development and advantages for both lines. It will also bring about the building of new railroads, first, a connection between the two systems, and then the joint construction of branches to reach coal lands in West Virginia, in which the New York Central is interested. The Western Maryland is already a heavy coal carrier from West Virginia.

President B. F. Bush of the Western Maryland confirms the story of the alliance, and, speaking to a representative of the MANUFACTURERS' RECORD, he said:

"We have an agreement with the New York Central Railroad by which they agree to turn over to us all their business at our connection, and we, in turn, agree to turn over to them our business at the same place. It will be of great advantage to both lines, and is something which we have been working on for some time. Great pressure was brought to bear to prevent it, but it will be fulfilled, and we will proceed immediately to build the necessary extension from Cumberland, Md., to New Haven, Pa., 83 miles, thus connecting the Western Maryland with the Pittsburg & Lake Erie Railroad, the New York Central's line in that territory."

In reply to the question as to whether the New York Central had bought or would buy the Western Maryland, President Bush said: "That is a question which I have been asked several times, and I can only say that if I did know of such a sale I could not tell you."

Alexander Robertson, vice-president and general manager of the Western Maryland, said: "The agreement with the New York Central will put us right into the Pittsburg district, the greatest traffic-producing region in the world, and we will have all connections there to get business. It will bring a tremendous amount of traffic to Baltimore, and we will provide the facilities for handling it. The connection with the New York Central will make a shorter line from Pittsburg to New York than any excepting the Pennsylvania."

The greatest construction work which will follow this alliance will be in West Virginia, where numerous coal branches will have to be constructed. The most important of these will be a line from the Pittsburg & Lake Erie road connecting at New Haven or near there down through Uniontown and Fairmont to Belington, W. Va., connecting there with the Western Maryland. From this road other branches will also have to be constructed. At Baltimore enlarged terminal facilities on the water-front will be provided, and they will doubtless be built from time to time as the development of business demands. It also means that much capital will be invested and employed for developing coal mines, oil wells, timber lands and industrial plants in West Virginia. There is to be no delay in getting to work on the connection between Cumberland and New Haven. The surveys have been made for some time, and the Rockefeller interests, which dominate the Western Maryland, will, it is understood, provide the funds for the work. At present it is only possible to realize in a general way the effect which this traffic agreement will have upon West Virginia development, but, taken into consideration with the great traffic possibilities pre-

sent, it is easy to comprehend that the New York Central entrance into West Virginia will insure work of great magnitude.

This combination makes a new Southern trunk line between a Southern port, Baltimore, and the West. It also gives the New York Central a shorter route from the Pittsburg district to New York city than any it now possesses; this will be via Cumberland, Hagerstown and Shippensburg, and from there over the Reading route to New York. The business at Baltimore is expected to expand tremendously and result in the handling of even a larger amount of import freight through this city than is now being handled, and which has lately been widely commented upon in the transportation world. Export freight will also be carried in greatly-increased quantities, although, of course, the New York Central would naturally handle most of its eastbound freight over its own lines through to New York. But it is in the Pittsburg district that the freight eastbound will develop for the New York Central-Western Maryland route. From there, as well as from West Virginia (where the freight will be coal and timber), the eastbound traffic will mainly come.

It is intimated that steamship lines may be established with ample backing to carry coal and other freight out of Baltimore.

The great inducement presented to the New York Central by the proposed construction into West Virginia is to secure more coal and coke tonnage. The mines along the Pittsburg & Lake Erie have been worked for a good many years, and will in time show decreased output and perhaps become exhausted; thus the road is compelled to seek new territory, and the construction of the line to Belington may be started nearly, if not quite, as early as work is begun upon the connection from Cumberland to New Haven.

This deal of the Western Maryland with the New York Central may be surprising to people who have looked upon the Baltimore road as a Wabash link, but, as one of the interested parties said, the people in control of the Western Maryland waited and waited, anticipating that the affairs of the Wabash might become straightened out so that the connection with the Western Maryland could be fulfilled, but as time went on the Wheeling & Lake Erie became involved and the prospect of linking up became more remote. Moreover, George Gould's interest in the Western Maryland is now small. Considering all these things, the interests dominating the property decided to accept the agreement with the New York Central, and that plan will be fulfilled. Thus the road becomes an important part of an east and west trunk line with greater possibilities for expansion than ever, and perhaps even greater than had it been linked with the Wabash.

New Equipment.

The Seaboard Air Line's new equipment covered by the \$1,380,000 of equipment trust notes recently mentioned consists of 15 10-wheel passenger locomotives, 10 switching locomotives, 1000 box cars of 60,000 pounds capacity each, 25 stock cars, 15 express, baggage and passenger cars, 1 self-propelling piledriver, 2 60-ton steam wrecking cranes and 1 Lidgerwood unloader.

B. F. Yoakum, president of the St. Louis, Brownsville & Mexico Railway, is reported as saying that the company is having constructed a number of gasoline motor cars, each to seat 75 passengers. It is understood that they are of the McKeen type.

The Missouri, Kansas & Texas Railway is reported in the market for 91 locomo-

tives, besides passenger and freight cars. The Missouri Pacific Railway is reported getting prices on 60 locomotives.

The Harriman lines, it is reported, has ordered 2000 refrigerator cars from the Pullman Company of Chicago.

The Georgia & Florida Railway is reported to have ordered six 10-wheel locomotives from the Baldwin Locomotive Works.

The Wrightsville & Tennille Railway is reported to have ordered from the Barney & Smith Car Co., Dayton, O., one passenger car and one combination mail and baggage car.

The St. Louis, Brownsville & Mexico Railway has ordered 40 Hart convertible ballast cars from the American Car & Foundry Co., St. Louis.

A dispatch from Roanoke, Va., says that the Norfolk & Western Railway has ordered 2000 steel coal cars of 100,000 pounds capacity each, to be built at its Roanoke shops.

The Georgia Railway & Electric Co. of Atlanta Ga., will build this year 12 single-truck closed cars and six double-truck closed cars at the company's shops. Bids have been received on motors for them.

The Baltimore & Ohio Railroad Co. is receiving deliveries on the locomotive order placed in October, 10 freight locomotives having been received from the Richmond Locomotive Works.

The Texas Company, oil producers, has ordered from the American Car & Foundry Co., St. Louis, 100 tank cars, each of 8000 gallons capacity.

The Virginia Railway & Power Co. of Richmond, Va., according to a dispatch, has ordered 20 semi-convertible cars of the pay-as-you-enter pattern, delivery to be made by next summer.

ATLANTA STREET CARS.

Georgia Railway & Electric Co. to Spend \$700,000 for a Number of Improvements.

An official telegram from the Georgia Railway & Electric Co., Atlanta, Ga., says concerning the work to be done this year:

"Improvements contemplated for 1910 amount to \$700,000, consisting of double-tracking single-track portions of various lines, rebuilding car-repair shop, building 18 new cars, installation of 1800-horse-power boilers, sundry extensions to gas mains and electric light and power circuits, and installation of new gasholder. Contract for holder was made last year, and the same is now being installed. Company superintendent and engineers have charge of improvements."

With reference to the foregoing an official writes:

"Improvements and additions are to be made in all departments of the company, these being made necessary to take care of the continued growth of the business."

"In the railway department, on account of the rapid growth of the city, and especially on certain lines where we only have single tracks, it is necessary to double-track a number of the lines and install turnouts on others, so as to increase the schedules and improve the service."

"In the car-shop department we contemplate rebuilding the machine and repair shop, putting up a fireproof building. We also intend to build 12 single-truck closed cars and six double-truck closed cars, these cars being built in the company's shops. Practically all of the material is on hand except the motors, on which bids have already been received."

"The installation of boilers consists of two 600-horse-power boilers to be installed in our Davis street plant, together with new chimney, and one 600-horse-power boiler in the Butler street plant. Bids on these boilers have not been asked for yet,

but we expect to take the matter up in a very short time."

"The installation of new holder for the Atlanta Gaslight Co., which was contracted for last year, is now under way, and a large part of the material has already arrived."

"The balance of the expenditures consist of ordinary extensions and additions to commercial electric and city arc circuits, meters, transformers, extensions of gas mains and gas meters, together with the necessary services which will be required to take care of new business during the year."

Webber Falls, Shawnee & Western.

A. R. Peyinghaus, Muskogee, Okla., writes that the Webber Falls, Shawnee & Western Railroad Co. proposes to build at first 12 miles of line from Warner, Okla., to Webber Falls. This will include one bridge over a creek, and connection will be made with the Midland Valley Railroad at Warner. The route is through a rolling prairie country with some timber and bottom lands. The C. E. Hagerty Engineering & Construction Co. will have charge of the work.

Continuing, Mr. Peyinghaus writes: "Webber Falls is within 75 square miles of the garden spot of Oklahoma, situated on a high bank on the west side of the Arkansas River, one of the oldest landmarks of that section. The population is about 600, but it has a business of more than \$350,000 a year, notwithstanding discouraging circumstances for conducting it. This track is backed by Webber Falls, Warner, and particularly Muskogee, and there is no question that the business will increase several times as a result of having direct connection by rail with all points. Only about 15 per cent. of the farming land is in cultivation. Extensions will be directed much in accordance with the wishes of Muskogee. In building the track 60-pound relaying rails will be used, and prices for such delivered at Warner, Okla., about April 1 are desired. Ashton R. Peyinghaus will have charge of the work."

New Railroad Charters.

Among the new railroad projects recently chartered are the following:

Abilene Central Railway Co., which proposes to build from Abilene to Waco, Tex., about 150 miles. As previously stated, it is proposed to build immediately about 55 miles of line. It will run through Taylor, Callahan, Eastland, Brown, Comanche, Mills, Hamilton, Coryell and McLennan counties. The incorporators are D. T. Bomar of Fort Worth, Morgan Jones, John Guitar, J. M. Radford, Henry James, H. O. Wooten, C. W. Merchant, George L. Peyton, W. G. Swenson and Ed. S. Hughes of Abilene, Tex.

Gulf Coast & Provident City Railway is to build a line from Pierce to Provident City, Tex., 35 miles; capital \$50,000. The incorporators are Carey Shaw, E. W. Townes, James G. Reeves, John T. McCarthy and A. Schleff, Houston; Friend Simpson, Halettsville; Lewis H. Sourlock, Emil Reinholt, T. J. Coughlin and W. L. Walsh, Kansas City.

New Shops Near Birmingham.

The Louisville & Nashville Railroad, according to a report from Birmingham, has appropriated \$654,000 for new shops to be erected at Boyles, Ala. The site is already cleared, and construction will be started within two weeks. The shops are to do most of the heavy repair work.

Concerning this report an official telegram from the headquarters of the company at Louisville, Ky., to the MANUFACTURERS' RECORD says: "Shops at Boyles, near Birmingham, will be started in a short time. The buildings will be of frame,

and will probably be put up by the railroad company's forces."

W. H. Courtenay, chief engineer, is reported to have prepared the plans, which will be executed under the supervision of T. E. Brooks, superintendent at Birmingham. The railroad company, it is said, has about 120 acres of land at Boyles, and most of it will be occupied by the shops.

Kansas City Southern Plans and Work.

Concerning the report from New Orleans that the Kansas City Southern Railway might build a line into that city or otherwise provide for handling traffic to and from there, and that the company was also about to spend \$2,000,000 for improvements and extensions, an officer writes:

"So far as new construction is concerned, beg to advise that none has been authorized. As to improvements of the existing line, it is true that we are doing considerable work in that direction, both at terminals and in the way of grade reductions and revision of line. When the contemplated improvements are finished 41 per cent. of the line will have a maximum grade of 5 per cent."

San Benito Interurban.

According to press dispatches, S. A. Robertson of San Benito, Tex., representing a syndicate composed of residents of St. Louis, Mo.; Pine Bluff, Ark., and Palestine, Tex., is promoting a plan to build an interurban railroad from San Benito to the Rio Grande. Preliminary surveys have been made and construction is to begin when all bonus contracts are signed. This road will traverse the lands of the San Benito Land & Water Co. It is proposed to build a standard-gauge line and to operate it with gasoline motor cars. It will connect with the St. Louis, Brownsville & Mexico Railway. Stops are to be made at short intervals so as to accommodate the territory thoroughly. The name will be the San Benito Interurban Railroad.

Mallet Compound Locomotive.

Bulletin No. 1000 of the American Locomotive Co., just issued, is devoted to Mallet articulated compound locomotives built for railroads in this and foreign countries. The plans and illustrations presented show a number of designs and are accompanied by data. The Mallet locomotive is practically two locomotives in one machine, and the forward engine is really a swinging truck, thus enabling the locomotive to get around short curves and at the same time afford extraordinary size and efficiency, with its weight distributed on many pairs of wheels. The mechanism prevents slipping of the driving wheels. Reserve power is a notable feature. Cost of operation is reduced.

Corpus Christi Street Railway.

An officer of the Corpus Christi & Interurban Railway at Corpus Christi, Tex., is quoted as saying that the street railway in Corpus Christi is nearly completed and will soon be in operation. It will be a little more than five miles long, and will constitute a belt line, but will also reach the business section. Already five miles of track are laid with 60-pound rail, and about half of the overhead work has been finished. The company is doing its own construction, and the People's Light Co. will furnish power. Daniel Hewitt is president of the railway, and V. S. Heinly is secretary and treasurer.

Bonds for Extension.

The Trinity Valley & Northern Railway Co. of Dayton, Tex., has been authorized

to issue \$150,000 of bonds for improvements and extensions, as well as refunding. The line is now 10 miles long from Dayton, on the Texas & New Orleans Railroad of the Southern Pacific system, to Fouts, Tex. It connects at Fullerton (halfway) with the Beaumont, Sour Lake & Western of the Frisco lines. L. Fouts is president and general manager.

Railroad Notes.

The Coal & Coke Railway has completed its branch from Gassaway to Sutton, W. Va., and it is now being operated with passenger trains.

A dispatch from Chattanooga, Tenn., says that a franchise has been granted to D. J. Duncan to operate a trackless trolley line over the main valley road to Rhea Springs.

The old bridge of the Pennsylvania Railroad Co. over the Susquehanna River between Hayre de Grace and Perryville, Md., has been converted to a highway bridge and is now being used as such.

The Knoxville, Sevierville & Eastern Railroad has completed its line from Knoxville to Sevierville, Tenn., and has operated the first train through. Several weeks ago the line was put in operation to a point six miles from Sevierville, but the entire road is now finished.

A dispatch from Statesboro, Ga., says that H. N. Randolph of Atlanta, C. G. Young of New York and C. B. Fox of Toronto, Canada, in company with Col. Hinton Booth of Augusta, Ga., have made an inspection of the Savannah, Augusta & Northern Railway, and it is expected that they will be bidders on the line when it is offered for sale.

A stockholders' meeting of the Winston-Salem Southbound Railway Co. has been called for February 4 to act on a proposed issue of \$5,000,000 of bonds. This line is now under construction between Winston-Salem and Wadesboro, N. C., by the Norfolk & Western and the Atlantic Coast Line. It is expected to be completed next fall. H. E. Fries of Winston-Salem is president.

A dispatch from Rogers, Ark., says that the Arkansas, Oklahoma & Western Railroad, 35 miles long from Rogers to Siloam Springs, Ark., has been sold by W. R. Felker of Rogers to Eastern capitalists, and that J. D. Locke of St. Louis becomes president and general manager. The Missouri Pacific is said to be interested, and it is also stated that the line will be extended eastward to Bald Knob to connect at that point.

Another Cement Plant for Tennessee.

Mark W. Potter has telegraphed the MANUFACTURERS' RECORD that he and associates will build a Portland cement plant at Kingsport, Tenn. This plant will have an initial daily output of 1000 barrels of cement, and all plans are in charge of John A. Miller, vice-president of the Dexter Portland Cement Co., Nazareth, Pa. Mr. Potter is chairman of the Carolina, Clinchfield & Ohio Railway, general offices at 24 Broad street, New York. The cement company will probably be capitalized at \$900,000.

Wants a Southern Location.

The W. W. B. Company, J. K. Ball, secretary, Richmond, Ind., contemplates establishing a plant in the South, and is seeking a location where an ample supply of oak, hickory and ash timber can be obtained. This company manufactures spokes, handles and other hardwood specialties.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Hardwood Manufacturers.

The eighth annual convention of the Hardwood Manufacturers' Association of the United States, Mr. Lewis Doster, Cincinnati, secretary, will be held at Cincinnati February 1-3. Eligibility in membership in the association is divided as follows:

A. Any manufacturer of hardwood lumber in the United States.

B. Any planing mill operator manufacturing hardwood lumber into finished material and shipping same into the market in carload lots.

C. Any operator who manufactures hardwood vehicle and furniture stock.

D. Manufacturing consumers of hardwood lumber.

E. Wholesalers, wholesale yard men and exporters interested in the hardwood industry.

English Capitalists Buy Timber Lands

Reports from Knoxville announce that Robert J. Denton of that city, representing English capitalists, has closed negotiations with Dominick, Webb & Co., representing the owners, for the purchase of 30,000 acres of virgin timber land in the vicinity of Sevierville, Tenn. The property is located in Sevier county, Tenn., and the adjoining county of North Carolina, about one-half mile distant from the Knoxville, Sevierville & Eastern Railway, and is said to contain an excellent grade of poplar and hardwood timber. It is understood that the purchasers will erect a large sawmill and construct a branch railroad from the tract to the present railroad to facilitate the development of the timber, which will be undertaken at once.

Retail Dealers Postpone Meeting.

Owing to a small attendance, the sixth annual meeting of the Alabama, Tennessee & Georgia Retail Lumber Dealers' Association at Birmingham last week was adjourned until March 8, at which time officers will be elected. The present officers of the association include W. M. French of Knoxville, president, and W. E. Wailes of Atlanta, secretary.

Building at Houston.

In our issue of January 6 the value of building operations at Houston, Tex., in 1909 was placed at \$2,836,269. Mr. Adolph Boldt, secretary of the Houston Business League, informs us that the figures were erroneous, as the City Engineer's office shows permits for 1909 to have been \$3,645,644.

Buys West Virginia Timber Land.

The W. M. Ritter Lumber Co., Oak and Poplar streets, Columbus, O., is reported to have purchased 20,000 acres of timber land on Winding Gulf, Stone Coal and Slab Fork of the Guyandotte River, in Raleigh county, West Virginia. The property is estimated to contain a stumping of 142,000,000 feet.

Buy Florida Lands.

Henry C. Ferriot & Co. of Fergus Falls, N. D., are reported to have secured options on 303,000 acres of timber lands in Hillsboro, De Soto and Manatee counties, Florida, with a view to establishing sawmills for the purpose of developing the timber and afterward to utilize the land for the colonization of Northwestern farmers.

Tight Barrel Stave Manufacturers.

The annual meeting of the Tight Barrel Stave Manufacturers' Association was held

at Memphis last week in private session, at which, it is stated, subjects pertaining entirely to the stave trade were discussed. The next meeting of the association will be held at Memphis in July.

Gulfport's Shipments.

Lumber shipments from Gulfport, Miss., for December amounted to 21,183,000 feet, valued at \$506,632. Total shipments for the year amounted to 254,593,000 feet, valued at \$6,501,100. Imports for the year, including creosote oil, phosphate rock and pyrites, amounted to \$120,789.

Jacksonville Builders' Exchange.

At a meeting of the Builders' Exchange of Jacksonville, Fla., last week the following officers were elected for the ensuing year: J. H. Kooker, president; first vice-president, O. T. Woodeock; second vice-president, W. S. Kadz; secretary, E. J. Gartley; treasurer, George H. Keefe.

For Hardwood Dealers.

John A. Bishop of Talladega Springs, Ala., wants addresses of dealers in hardwood for domestic and export trade.

Lumber Notes.

The semi-annual meeting of the Arkansas Association of Lumber Dealers will be held at Little Rock on January 21, at which time efforts will be made to increase its membership.

It is announced that the Hebari Cypress Co. of Scranton, Pa., has practically completed the construction of its extensive plant at Waycross, Ga., and will begin operations within a few days.

The fifth annual convention of the Retail Lumber Dealers' Association of West Tennessee and Kentucky will be held at Memphis March 8 and 9. The arrangements are in charge of Secretary R. P. Bransford of Union City, Tenn., and Mr. V. R. Smith, Randolph Building, Memphis.

Texas Commercial Congress.

[Special Cor. Manufacturers' Record.]

San Antonio, Tex., January 15.

At a meeting to be held in this city on January 20 definite organization of the Texas Commercial Congress will be effected. A large number of men prominent all over the State are serving on the organization committee, which is headed by Col. Ike T. Pryor, president of the Trans-Mississippi Commercial Congress. Among the members on the committee are: R. J. Kleburg, Kingsville; Walter Graham, Galveston; C. B. Lucas, Berclair; J. B. Kirby and Dewitt C. Dunn, Houston; Fred W. Cook, Jr., and R. H. Russel, San Antonio; Charles Schreiner, Kerrville; Asher Richardson, Asherton; Ed. Lasater, Falfurrias; H. J. Pottberg, Royal A. Ferris, J. R. Babcock, R. B. Richter, J. W. Cochran and F. R. Bissell, Dallas; W. H. Featherston, Henrietta; Judge Cato Sell, Cleburne; Sam Davison and J. A. Arnold, Fort Worth; G. W. Littlefield and J. W. Hoopes, Austin; F. P. H. McFaddin, Victoria; E. W. Kirkpatrick, McKinney; O. Owen, Port Arthur; O. E. Dunlap, Waxahachie; J. K. Woods, Laredo; Homer D. Wade, Stamford, and James Callan, Menardsville, president of the Texas Cattle Raisers' Association. Among the newspaper men serving on the committees are Clarence Ousley, Fort Worth Record; George B. Dealey, Dallas News, and R. M. Johnson of the Houston Post.

The Texas Commercial Congress will be a non-partisan and non-political organization whose object it will be to promote the general welfare of Texas. Its general organization will be similar to that of the Trans-Mississippi Commercial Congress.

FOREIGN LETTERS

The MANUFACTURERS' RECORD is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. Some of these letters indicate the disposition of foreigners to buy American goods, and are therefore of interest to our readers.

Wants Modern Amusement Devices.

C. C. MacKee Company, Hongkong, China, writes the MANUFACTURERS' RECORD:

"A wealthy Chinese gentleman has called on us with the idea in mind of developing a tract of land into an amusement place after the style of American resorts, and asks us to secure prices, information, booklets or the like on merry-go-rounds, all kinds of penny slot machines, penny candy machines, small kinetoscope machines, with the moving pictures (one person to a machine)—in fact, all that is up to date in American amusements of this nature. Will you kindly put us in touch with such parties as are handling such goods, and very much oblige, asking them to give, when addressing us, all discounts, cash discounts and boxed-for-export prices?"

Rubber Shoes, Skins, Etc.

Nicolas Georgiades, Constantinople, Turkey, writes the MANUFACTURERS' RECORD:

"I found the list of agents you so kindly sent me very valuable, and I shall not fail to mention your name whenever I have occasion to write to them. I would be greatly obliged if you would give some new names of makers of galoshes (rubber shoes), as well as of oils of all kinds. From recent information I learn that the importation into America of undressed goat, kid and sheep skins, as well as of dog droppings ('excrement de cheons') now reaches a very high figure. As I am now very favorably situated to all these goods in quantities, I should appreciate it if you would give me the names of some possible buyers. I value what you have done for me very much."

Portable Houses and Furniture.

Alfred Horne Lavalle, 151 Calle Treinta y Tres, Montevideo, Uruguay, S. A., writes the MANUFACTURERS' RECORD:

"Kindly mail to my address your trade journal, with the object of finding in its pages information as to manufacturers of certain articles which I would like to introduce to this country. I would sincerely request you not to delay sending the MANUFACTURERS' RECORD, and, if not too much trouble to you, be good enough to point out manufacturers of portable houses (wooden, of course) and solid plain household furniture for town, village and camp uses. Prices must be such as to meet our high importation duties, leaving for me a fair profit for representation. I am indebted for your address to Dr. F. W. Goding, American consul in this city."

Advertising Novelties, Banners, Etc.

Martin Lopez & Co., P. O. Box 148, San German, Porto Rico, writes the MANUFACTURERS' RECORD:

"Kindly put us in communication with the leading American manufacturers of advertising novelties, political banners and clay statues."

Mexico Wants Broom Handles.

Lauro M. Guerra y Hermano, Apartado Postal 300, Monterey, N. L., Mexico, writes the MANUFACTURERS' RECORD:

"Would you mind inserting in your paper that we are desirous of making an arrangement with some United States con-

cern manufacturing broom handles for this country. We would be willing to buy outright and could consume about two car-loads per month. We would prefer to make arrangement with some factory located at a place where a low freight rate into Mexico is applicable. Could you not give us the names and addresses of some manufacturers as above?"

Steel Knives for Lining Cylinders.

Jesus Tovar, La Constancia, Durango, Mexico, writes the MANUFACTURERS' RECORD:

"Please tell me, if you can, to what manufacturers I must address myself for steel knives for lining cylinders and other objects, the markings to be straight lines under each other (lining, marking, grooving, indenting).

MINING

West Virginia Coal Shipments.

According to reports received by the Department of Mines of West Virginia, coal shipments for December from various central and southern portions of the State show an increase as compared with shipments for December, 1908. From the territory traversed by the Norfolk & Western Railway total shipments for the month amounted to 1,252,787 tons, embracing the Pocahontas field, which shipped 893,010 tons; Tug River, 122,464 tons; Thacker, 170,435 tons, and the Kenova, 66,878 tons. Coke shipments from the same territory amounted to 212,174 tons. Rail shipments in the Kanawha field for the month amounted to 612,680 tons, while the tonnage amounted to 695,030 tons, as compared with a tonnage of 607,170 tons for December, 1908. The New River district produced a tonnage of 559,480 tons for the month, as against 503,150 tons for the corresponding month last year. Coke shipments for the month amounted to 30,180 tons, as compared with 22,440 tons for December, 1908.

Coal Car Shortage Ended.

Reports from Knoxville state that the coal car shortage which prevailed in Eastern Tennessee during November and December is ended, and that there is an ample supply of cars at this time. It is stated that the cold weather which has prevailed for several weeks has substantially consumed all the available stock in the hands of coal dealers, and the demand is quite heavy now, with prospects of advancing prices.

Arsenic Mines to Resume.

A report from Roanoke states that C. R. Brinton of Floyd, Va., who is interested in arsenic mines in Floyd county, has purchased machinery for a paris green manufacturing plant which he proposes to establish in Norfolk. It is stated that the output of the mines for the present will be consumed at the paris green plant, and it is intended to put both the mines and plant in operation about January 20.

The Gundling Lead & Zinc Co. of Joplin, Mo., has incorporated with a capital stock of \$500,000, its incorporators being Harry Gundling, Charles H. Baldwin and A. B. Spencer.

Texas Onion Crop.

[Special Cor. Manufacturers' Record.]

San Antonio, Tex., January 14:

It is confidently expected that the onion crop of Southwest Texas in 1910 will reach a total of 2,200,000 crates. Of this, over one-half, or about 2200 cars, will originate in the Laredo district, and the balance from Cotulla and the Brownsville country.

While the recent frosts damaged the heads of the onions considerably, the bulb has not been touched.

MECHANICAL

To Save Grease and Oil.

Mr. W. J. Springborn of the C. O. Bartlett & Snow Company, Cleveland, O., writes to the MANUFACTURERS' RECORD:

"We were very much pleased with the various articles recently published in the MANUFACTURERS' RECORD, showing the development of the South and its future possibilities. It occurs to us that there is an opportunity of developing a new industry in the Southern States where the cottonseed mills are located. A considerable amount of the cottonseed meal produced is used as fertilizer. This meal carries with it a large percentage of oil. The oil is of no particular value as a fertilizer; in fact, we believe it is usually regarded as a detriment. The present high price of soap stocks and lower grade of greases would surely make it profitable for the cottonseed mills to extract this oil from such of the meal as is to be used for fertilizer.

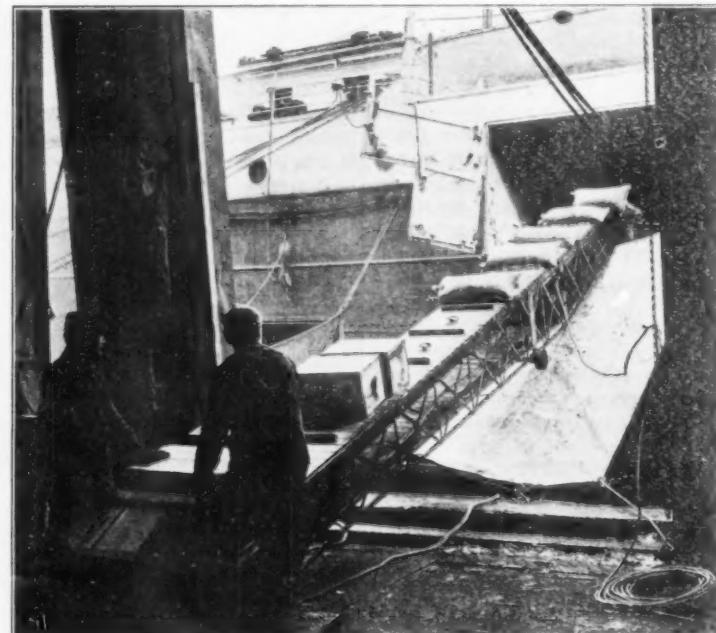
"About a year ago I took a trip through the Southern cities and visited a number of the cottonseed-oil mills. I brought home with me samples of fuller's earth which had been used in their filter presses, and which the superintendents or managers of the plants claimed contained only 4 or 5

and we believe somewhat cheaper than that of pressing the grease out of the material. During the year 1909 an average of 70 pounds of grease per ton of green garbage collected was extracted. Under the pressing process it is difficult to secure more than from 50 to 60 pounds, depending somewhat upon the amount of pressure applied.

"As above stated, the installation of plants of this kind would add another industry in the Southern cities."

Spence Portable Electric Conveyor.

People who are interested in the economical handling of freight will find their attention attracted by the accompanying view of the Spence portable electric conveyor. This equipment is now being used by railway and steamship companies, manufacturers and warehouse managers. It is built in various lengths and widths to meet the conditions and requirements of the purchaser. Spence conveyors are provided with roller-bearing truck wheels, placed at centers, allowing the machines to be wheeled to any part of a building. The electric motors are placed inside of the steel framework, together with all the gears, drive chains, etc. Electric press buttons are placed at each end for stop-



THE SPENCE PORTABLE ELECTRIC CONVEYOR.

per cent. of oil. This earth I found was usually dumped on the roads or somewhere on the premises adjacent to the plant. A test of the samples secured showed that the earth carried from 9 1/2 to 10 1/2 per cent. of oil. With the increased demand for soap stocks, and also for that of lower grade greases, it would no doubt be profitable to extract the oil from the cottonseed meal to be used as a fertilizer, and also from the fuller's earth.

"I also found that but few of the Southern cities had any adequate means of taking care of the so-called kitchen garbage. This material also contains a grease which has a ready market. We believe that a garbage-reducing works located in cities of 40,000 or more inhabitants would prove a profitable investment, as well as securing better sanitary conditions for such cities by having a systematic method of collecting and disposing of garbage. In connection with such plants the oil from cottonseed meal and fuller's earth could also be extracted.

"Three years ago we built for the Cleveland Garbage Reduction Works a Peck patented percolator, which is used for the extraction of grease from the garbage collected here. The process is a simple one,

ping the motor when desired. The manufacturer's latest production consists of a hoisting attachment, operated by a small electric motor for elevating or lowering the nose of conveyors. The frame is placed on swivel roller-bearing truck wheels, allowing it to be moved around with the conveyor. For piling bags, boxes and bales the hoist and conveyor is providing its worth.

The Spence Manufacturing Co., 475 Broadway, St. Paul, Minn., is the manufacturer of these equipments.

Equipment for Steel Foundry.

The demand for steel castings in the western part of Canada has increased with the rapid development of that section.

Realizing the growing needs of that portion of the Dominion, early in 1909 the directors of the Vancouver Engineering Works decided to add a steel foundry at Vancouver. The side-blown converter for making steel was adopted after careful consideration of the most economical process for producing a light tonnage, and after personal inspection of various plants by F. L. Leighton, the company's general manager.

In May the Whiting Foundry Equip-

ment Co. of Harvey, Ill., was commissioned to design and equip the steel foundry. Erection of the plant was commenced in June and the equipment was installed in September. The first blow of steel was successfully made October 12 under the supervision of the Whiting company's steel foundry engineer.

The plant has a capacity of eight tons

factured by the Hill-Hupfel Engineering Co., 30 Church street, New York, whose bituminous gas producer was described and illustrated recently. Referring to its anthracite plant the company says: "An anthracite gas plant consists principally of a generator in which the gas is made, an economizer in which the waste heat of the gas is utilized, a wet scrubber in which

the generator to the economizer is of large size, permitting the gases to travel at a low velocity, thus preventing dust from being carried over into the economizer. This feature greatly reduces the water required for cleaning the gas."

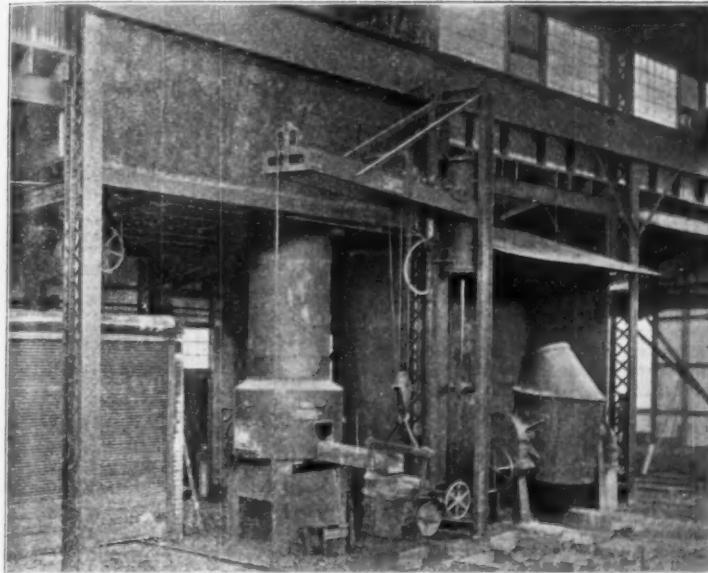
"The gas passing from the generator to the scrubber passes through the economizer. Our economizers are made of cast iron, the top of which is a water compartment provided with a subdividing wall extending to within two inches of the bottom. The water from the top of the generator is admitted into one side of the economizer head, and is maintained at a constant level by a U bend regulator which can be adjusted for any water height, depending on the class and quality of the fuel being gasified. The inner chamber of the economizer head has two connecting pipes to the economizer proper. The water in the top of the generator is usually heated to 140 degrees Fahrenheit, and passing to the economizer head the temperature is increased to approximately 200 degrees Fahrenheit."

"The center of the economizer consists of an iron casting provided with projections in the form of a spiral. The hot water trickling down this spiral is flashed into steam. As the bottom of the economizer is connected to the tuyeres in the generator, the suction on the producer forms a partial vacuum in the closed compartment of the economizer head, thus raising the water level in direct proportion to the load. Therefore, any variation in the load causes a corresponding variation in suction and draws the water into the economizer in direct proportion to the load on the generator. The air is admitted into the outer shell of the economizer through a door provided with a weight which is adjustable, and is mixed with the steam and drawn into the tuyeres by the suction on

the requirements of the National Board of Fire Underwriters. It is water-sealed continually, and will not warp, crack or get out of order. This valve is arranged so that it may be operated from either the charging platform of the producer floor, and is of the three-way type. When it is raised the gas passes from the economizer to the scrubber, and when lowered the gas passes from the economizer to the purge stack."

"In the wet scrubber the gas is cooled and cleaned. Our scrubbers are made of a steel shell, cylindrical in shape and of quarter-inch material properly riveted and caulked. These scrubbers are of the water-sealed type, and are set in concrete pit from which an overflow is connected to the sewer. The scrubbers are provided with three sections. The lower section is filled with wooden checkers; the upper sections with broken coke. Large cast-iron clean-out doors are provided in each section. Above each section water sprinklers are provided. In the small plants the wet scrubber is combined with the dry scrubber, and in large plants the wet scrubber is provided with duplicate water piping to insure constant operation. These scrubbers are most liberally designed, of large proportions, allowing the gas to pass through same at a very low velocity, insuring a thorough cooling and cleaning and preventing an excess of water being carried over to the dry scrubber. Under ordinary conditions the scrubbers require from two and a half to two and three-quarters gallons of water per producer horse-power per hour when the producer is operating at full load. The gas is cooled to within a few degrees of the temperature of the cooling water."

"In the dry scrubber the gas is thoroughly dried and all dust is removed. Our dry scrubbers are made of quarter-inch



EQUIPMENT FOR STEEL FOUNDRY.

daily, and is designed for increasing to double that capacity as required, without interrupting operations.

The cupola is the standard Whiting No. 4, and the height from floor level to top of the stack is 35 feet.

Iron is tapped from the cupola into a 6000-pound ladle, carried by a pneumatic jib crane of four tons capacity.

The converter, having a capacity of two tons, is of the standard Whiting type. It occupies a floor space 20x12 feet, and is separated from the remainder of the side bay by a steel curtain wall.

Back of the converter, and on a level with the foundry floor, is the blower-room, which is equipped with a positive pressure blower for the converter and a steel pressure blower for the cupola. The positive pressure blower (a No. 5) was built by the P. H. & F. M. Roots Company of Connersville, Ind. It is belt connected to a 75-horse-power Allis-Chalmers Bullock alternating-current motor built by the Allis-Chalmers Company of Milwaukee. The steel pressure blower, built by the B. F. Sturtevant Company of Boston, is a No. 6 belted to a 10-horse-power Allis-Chalmers Bullock alternating-current motor.

Adjoining the coreroom is the sand-mill room, with a 72-inch mill, built by the Vancouver Engineering Works. This mill is of the under-gearred type, and is belt driven by a 25-horsepower Allis-Chalmers Bullock alternating-current motor. A pneumatic sand shaker, built by the Hanna Engineering Works of Chicago, is between the sand mill and coreroom.

Two type C Diamond emery grinders, built by the Diamond Machine Co. of Providence, provide ample facility for grinding the present output of the foundry.

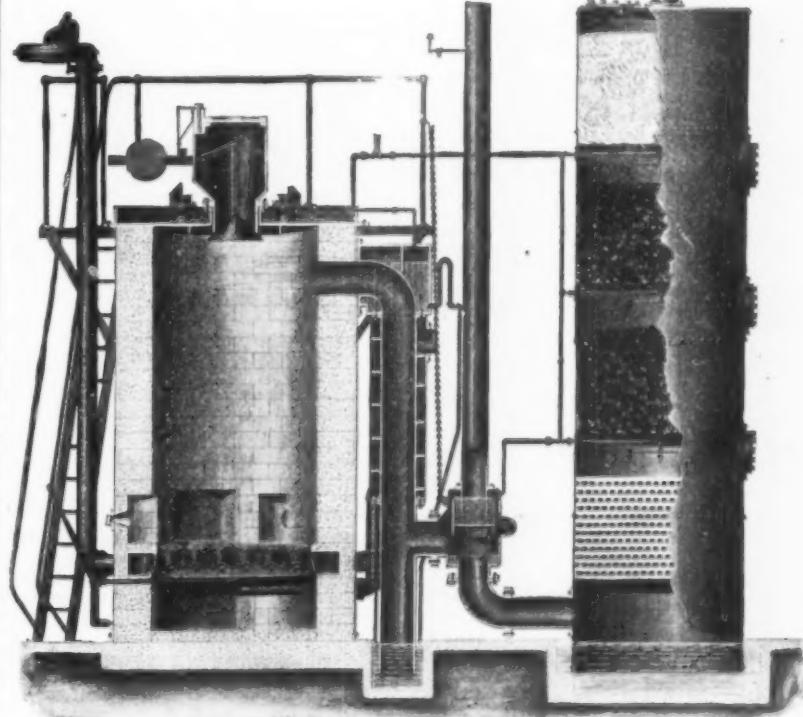
The Vancouver Engineering Works manufactures logging and sawmill machinery, boilers, burners for sawmills and mining machinery.

See accompanying interior view of a portion of the plant as equipped by the Whiting Foundry Equipment Co.

Hill Anthracite Gas-Producer Plant.

An accompanying view illustrates the Hill anthracite gas-producer plant manu-

factured by the Hill-Hupfel Engineering Co., 30 Church street, New York, whose bituminous gas producer was described and illustrated recently. Referring to its anthracite plant the company says: "An anthracite gas plant consists principally of a generator in which the gas is made, an economizer in which the waste heat of the gas is utilized, a wet scrubber in which



THE HILL ANTHRACITE GAS-PRODUCER PLANT.

the generator. Between the economizer and the tuyeres are two adjustable dampers, so that a uniform amount of air and steam is admitted to the generator through the fuel bed. At the bottom of the economizer is provided a cast-iron pipe extending into a water-sealed pit which acts as a flash door in case of slight explosion.

"Between the economizer and the scrubber we provide a hydraulic valve. Attention has been given to this valve to meet

steel and are provided with two baffle-plates between which is a filling of excelsior, the top of which is soaked in oil. A large manhole is provided for cleaning out. Proper connections are made from the dry scrubber to the pit of the wet scrubber for draining all entrained moisture.

"Owing to the large size of our dry scrubbers, the velocity of the gas passing through same is less than 20 feet per second."

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECT

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

The Daily Bulletin of the Manufacturers' Record is published every business day in the year for the purpose of giving the earliest possible news in regard to new industrial, railroad and financial enterprises organized in the South. It is invaluable to contractors, manufacturers, engineers and all others who want to get in touch at the earliest moment with new undertakings or the enlargement of established enterprises. The subscription price is \$25 a year. All advertising contracts in the Manufacturers' Record extending over a period of three months include a subscription for the length of time of the contract to the Daily Bulletin.

BRIDGES, CULVERTS, VIADUCTS

Ark., Harrisburg.—City awarded contract for construction of two bridges across town branch. Address The Mayor.

Fla., Jacksonville.—Duval county will open bids January 21 for construction of three steel and concrete bridges; F. J. Hyde, chairman Board County Commissioners; Gail L. Barnard, County Engineer, Courthouse, Jacksonville. (See "Machinery Wanted.")

Ga., Jackson.—Butts county defeated \$500 bond issue for bridge construction. Address County Commissioners. (Mentioned in October.)

Ga., Savannah.—Chatham County Commissioners adopted plans by W. F. Brown, County Engineer, for steel bridge across Herb River on La Roche Ave.; span 108 feet long, having six panels, each of which will be 18 feet long; steel trusses 20 feet high; 18-foot roadway across bridge with six-inch reinforced concrete floor solidified by five inches of macadam; reinforced concrete pliers; estimated cost, \$7000.

Ky., Louisville.—Kentucky & Indiana Bridge Co., W. M. Mitchell, general manager, will, it is reported, rebuild Kentucky and Indiana bridge spanning Ohio River at 32d St.

Miss., West Point.—Clay county will construct 300-foot steel trestle on West Point

and Mudrow Rd. in Tibbee bottom; bids to be opened February 8; L. J. Howard, clerk Board of Supervisors. (See "Machinery Wanted.")

N. C., Weldon.—Atlantic Coast Line Railroad, E. B. Pleasants, chief engineer, Wilmington, N. C., is having surveys made for construction of steel bridge over Roanoke River, to cost \$1,000,000.

Okl., Muskogee.—H. B. Spaulding, president Commercial Club, may be addressed relative to proposed erection of two-steel-span bridge across Arkansas River, to replace wooden toll bridge.

Okl., Purcell.—McClain county contemplates erection of bridges in connection with road construction. (See "Road and Street Improvements.")

Tex., Dallas.—Dallas County Commissioners opened bids for construction of bridge across Trinity River on Miller's Ferry road; Austin Bros. of Dallas lowest bidders at \$93,800 for wooden floor and \$9,925 for concrete floor structure. (Recently mentioned.)

Tex., Houston.—F. L. Dorman, engineer, completed plans and specifications for bridge across ship channel at foot of San Jacinto St.; each pier upon which approaches will stand will contain 350 piles, each 40 feet long; 100-foot clear waterway; bridge will be operated by one tender; electric-power; structural steel, exclusive of track plates; machinery, flooring, electrical-power equipment, etc., will weigh 1,200,000 pounds. (Previously mentioned.)

Va., Lynchburg.—City awarded contract to J. R. Ford of Lynchburg at \$4,238.85 to construct reinforced concrete bridge over Fish Creek; 50 feet long, 30 feet high and 30 feet wide; H. L. Shaner, City Engineer. (Recently mentioned.)

Va., Lynchburg.—City is considering construction of reinforced concrete bridge across River; Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., and Chesapeake & Ohio Railway, F. I. Cabell, engineer maintenance of way, Richmond, Va., may join city.

W. Va., Parkersburg.—Secretary of War approved plans of Parkersburg Bridge Co. for proposed bridge across Ohio River at Parkersburg.

CANNING AND PACKING PLANTS

Fla., Ocala.—Crystal Ice, Cold Storage & Canning Co. (recently noted to rebuild) will open building proposals in from 30 to 60 days. (See "Ice and Cold-Storage Plants.")

La., Delhi.—Monroe & Mack contemplate establishment of packing plant.

Md., Ridgely.—Armour & Co., Chicago, Ill., will, it is reported, establish strawberry preserving plant; will operate Alliance Preserving Co.'s plant for coming season, but plans to erect building later.

Miss., Natchez.—Natchez Packing Co. incorporated with \$100,000 capital stock by J. N. Carpenter, A. G. Campbell, S. H. Lowenburg and others; to establish proposed meat-packing plant; detailed plans not yet ready for announcement.

Ola., Oklahoma City.—Morris & Co., Chicago, Ill., awarded all contracts for Oklahoma City plant, now under construction as previously detailed; buildings of mill construction; brick; total cost, about \$3,000,000.

Va., Tappahannock.—Essex Packing Co. incorporated with \$10,000 capital stock; H. M. Gresham, president; A. A. Cralle, secretary-treasurer.

CLAYWORKING PLANTS

N. C., Charlotte—Flooring, Tiling, etc.—Charlotte Brick Co., S. S. McNinch, president, will establish plant to manufacture patented material for flooring, tiling, mantels, etc.; will later erect building.

Tex., Houston—Brick and Tile—Brown Brick & Tile Co. incorporated with \$175,000 capital stock by E. F. Brown, N. P. Delatte and W. C. Rucker.

Tex., Saspamco—Brick.—San Antonio Sewer Pipe Co., G. H. Davis, president, Maverick Bank Bldg., San Antonio, Tex., is erecting by day's labor the two circular kilns recently noted; manufactures clay products.

Va., Cartersville.—R. J. Rhodes contemplates establishment of brick-making plant. (See "Machinery Wanted.")

Va., Roanoke—Bricks.—Adams, Payne & Gleaves purchased Carr farm and will estab-

lish plant with capacity of 80,000 bricks daily, using clay deposits on property; will construct machinery department for molding, sheds for storage, kilns, office building and tracks; structures to be of frame and brick; plans by E. J. Rutland; total investment about \$60,000; stiff-mud brick machinery to be installed; C. S. Adams, president; Taylor Gleaves, vice-president and manager; H. H. Harris, secretary-treasurer.

W. Va., Charleston—Brick, Tile, etc.—West Virginia Clay Products Co., W. E. Caldwell, president, Louisville, Ky., proposed erection of \$200,000 plant for manufacturing brick, tiling, etc.

COAL MINES AND COKE OVENS

Ala., Clitco (not a postoffice).—Hammond-McDuffie Mining Co. incorporated with \$300 capital stock; J. W. Hammond, president, Gadsden, Ala. (See "Mining.")

Ala., Fort Payne.—Fort Payne Fuel & Iron Co., E. C. Drew, president, awarded contract to Southern Wesco Co., Birmingham, Ala., for electrical equipment for plant being installed at Beeson's Gap coal mines. (Recently mentioned.)

Ky., Gatlin.—Mammoth Blue Gem Coal Co. (recently reported incorporated with \$10,000 capital stock) will develop 100 acres coal land; no machinery needed; J. N. Brooks, Jejlico, Tenn., president; G. B. Meyers, vice-president and manager; S. L. Smith, secretary-treasurer.

Ky., Louisville.—Ohio County Coal Co. incorporated with \$24,000 capital stock by Isaac W. Bernheim, Bernard Bernheim, John B. Atkinson and Lee Howell.

Ky., Providence.—Eastern capitalists purchased 80,000 acres of coal lands from Edwards, Roney & Co.; lands to be developed; survey now being made.

Va., Graham.—Whitewood Land & Coal Co. incorporated with \$300,000 capital stock; C. L. Ritter, president, Huntington, W. Va.; G. W. St. Clair, vice-president, Tazewell, Va.; G. F. Miller, secretary-treasurer, Huntington, W. Va.; organized as holding company; no developments at present.

Va., Richmond.—Henrico-Walker Corporation incorporated with \$50,000 capital stock; Jonathan Bryan, president; John Stewart Bryan, vice-president, both of Richmond; W. W. Pool, Manchester, Va., secretary-treasurer.

W. Va., Fairmont.—West Fork Coal Co. incorporated with \$10,000 capital stock by Tusco Morris, H. B. Morris, L. G. Holbert, Scott C. Lowe and W. S. Black.

W. Va., Bluefield.—No. 3 Pocahontas Coal Co. incorporated with \$100,000 capital stock by Edward Williams, F. U. Fisher, A. A. Elzer, V. M. Brown and others.

W. Va., Eccles.—New River Colliers Co. awarded contract to Dravo Contracting Co., Pittsburgh, Pa., to sink three shafts 550' feet deep for development of coal lands between Eccles and Harper. (Previously mentioned.)

W. Va., Gary.—United States Coal & Coke Co., Howard N. Evanson, chief engineer, will construct two steel tipples at Nos. 4 and 5 works.

W. Va., Huntington.—Russell Coal Co. incorporated with \$50,000 capital stock by Donald Clark, T. J. Ryan, E. M. Watts and others.

W. Va., Huntington.—Cole-Crane Land Co. (recently noted) was incorporated with \$600,000 capital stock by James O. Cole, Peru, Ind.; Clinton Crane, Cincinnati, Ohio, and others to hold intact about 60,000 acres of land formerly owned individually by Messrs. Cole and Crane.

CONCRETE AND CEMENT PLANTS

Ark., White Cliffs.—White Cliffs Portland Cement Co. incorporated with capital stock of \$100,000 to buy and operate Southwestern Portland Cement Co.'s plant; B. G. Lane, president, San Antonio, Tex.; Geo. Vaughan and F. B. Lane, vice-presidents, Little Rock, Ark.

Tenn., Kingsport.—M. W. Potter, chairman Carolina, Clinchfield & Ohio Railway, 24 Broad St., New York, and associates will establish Portland cement plant; daily capacity 1000 barrels; begin construction at once; title of company, amount of capital, etc., not determined, but capital stock will probably be \$900,000; all plans in charge of John A. Miller, vice-president of Dexter Portland Cement Co., Nazareth, Pa.

Ala., Eufaula.—City contemplates construction of electric-light plant. Address The Mayor.

Fla., St. Augustine.—City awarded contract for lighting during 1910 to St. Johns Light & Power Co., present contractor.

Ga., Valdosta.—Valdosta Ice & Manufacturing Co., recently reported as having secured franchise for electric lighting, will enlarge and improve plant.

Md., Baltimore.—Baltimore & Ohio Railroad awarded contract to Edward Brady & Sons, 1109-1113 Cathedral St., Baltimore, to erect electrical substation at 1029-1031 Park Ave.; one story; 34x100 feet; pressed-brick front,

COTTON COMPRESSES AND GINS

Ala., Marshallville.—Samuel H. Rumph and J. M. Simmons purchased 18 acres of land; will organize company to erect cottonseed-oil mill and cotton gin. (See "Machinery Wanted.")

N. La., New Orleans.—Henry E. Gumbel, president, will repair portion of plant damaged by fire.

N. C., Henderson.—Chas. E. Fuller contemplates erection of several cotton gins. (See "Miscellaneous Enterprises.")

S. C., Rock Hill.—Ware Farm, incorporated by J. W. Ware and others, will operate cotton gin. (See "Miscellaneous Enterprises.")

Tex., Forrester.—Farmers' Gin Co. incorporated with \$12,000 capital stock by H. C. Carter, R. A. Davenport and J. H. Godfrey.

Tex., Rockwall.—Elm Grove Gin Co. incorporated with \$6000 capital stock by W. G. Bishop, I. J. Austin and G. B. Jones.

Tex., Rockwall.—Chless Gin Co. incorporated with \$6000 capital stock by W. C. Bishop, B. F. Jones and S. J. Austin.

COTTONSEED-OIL MILLS

Ala., Dothan.—Houston Cotton Oil & Fertilizer Co. incorporated with \$4000 capital stock; Joe Baker, president; J. R. Gwaltney, secretary-treasurer.

Ga., Lagrange.—Farmers' Cotton Oil Co. incorporated with \$30,000 capital stock by G. S. Edmundson, C. D. Hudson, E. B. Clark and others.

Ga., Marshallville.—Samuel H. Rumph and J. M. Simmons will organize company to erect cottonseed-oil mill. (See "Cotton Compresses and Gins" and "Machinery Wanted.")

N. C. Henderson.—Chas. E. Fuller contemplates erection of cottonseed-oil mill. (See "Miscellaneous Enterprises.")

Tex., San Antonio.—Kothmann & Reichert will establish cottonseed-oil mill.

DRAINAGE AND IRRIGATION SYSTEMS

Ark., Pine Bluff.—Board of directors Plumbago Drainage District instructed engineer to advertise for bids for proposed work; Jas. Gould, County Judge.

Tex., Houston.—Moores Bluff Rice Co. has organized with R. S. Sterling of Houston, president, and E. E. Sapp, Stilson, Tex., general manager; will irrigate and develop for rice cultivation 4500 acres of land adjoining Trinity River, between Dayton and Sterling; deep canal, seven or eight miles long, is under construction to furnish water and transportation facilities to and from rice fields; pumping station will be located at Moores Bluff; building will be equipped with compound Corliss condensing engines to develop 800 horse-power, pump having discharge pipe four feet in diameter with capacity for 36,000 gallons per minute; plant so designed that capacity can be doubled or tripled at any time; Schlafli & Porter Company of Houston, consulting engineer; E. E. Sapp of Houston is superintending construction; A. M. Lockett & Co., New Orleans, La., are contractors for irrigation plant, estimated to cost \$36,000.

Tex., Orange.—Layne & Bowler Drilling Co., Crowley, La., has contract to drill artesian wells for rice-irrigation purposes on Burkhardt, Edwards and Burton rice plantations.

ELECTRIC-LIGHT AND POWER PLANTS

Ala., Birmingham.—Birmingham Railway, Light & Power Co. contemplates expending \$500,000 for improvements in power-house and electric, gas and steam-heat departments; this is in addition to \$150,000 required to provide for ordinary betterments.

Ala., Eufaula.—City contemplates construction of electric-light plant. Address The Mayor.

Fla., St. Augustine.—City awarded contract for lighting during 1910 to St. Johns Light & Power Co., present contractor.

Ga., Valdosta.—Valdosta Ice & Manufacturing Co., recently reported as having secured franchise for electric lighting, will enlarge and improve plant.

Md., Baltimore.—Baltimore & Ohio Railroad awarded contract to Edward Brady & Sons, 1109-1113 Cathedral St., Baltimore, to erect electrical substation at 1029-1031 Park Ave.; one story; 34x100 feet; pressed-brick front,

trimmed with stone; slag roof; cost of building \$16,000 and of machinery about \$100,000; same company has contract for alterations to old battery house, 1029 Park Ave., to cost \$1000. (Recently mentioned.)

N. C., Albemarle.—City will open bids February 15 for installation of electric plant; address bids to I. B. Miller, Mayor; J. M. Bandy, Greensboro, N. C., engineer. (Recently mentioned as having sold \$20,000 bond issue. See "Machinery Wanted.")

N. C., Lexington.—City is considering plans for changing system of electric lighting from direct to alternating current and purchasing electricity from Southern Power Co., Charlotte, N. C.; Albert L. Couch is superintendent of municipal light plant.

Oklahoma, Ardmore.—J. W. Maxey Company, 906 Scanlan Bldg., Houston, Tex., will take surveys (recently noted) for city's proposed hydro-electric development on Washita River; \$300,000 or \$400,000 expenditure involved.

Oklahoma, Durant.—City voted issuance of \$20,000 of bonds for electric-light plant; Southwestern Engineering Co., Oklahoma City, Okla., engineer.

Tex., Van Horn.—John E. Cox, owner Van Horn water-works, contemplates installing electric-lighting plant.

Tex., Brownsville.—City will vote March 3 on issuance of \$15,000 of bonds to repair electric-lighting plant. Address The Mayor.

Va., Richmond.—Committee on Water awarded contract at \$895 to Carolina Construction Co., Raleigh, N. C., to construct line for transmitting electricity from electric plant to water pumping station; E. W. Trafford, Chamber of Commerce Bldg., Richmond, is consulting engineer. (Recently mentioned.)

Va., Staunton.—J. R. Weaver, owner South River Flouring Mills, and associates purchased South River Light & Power Co.'s plant and will make improvements.

Tex., Orange.—Yellow Pine Paper Mill Co. awarded contract to T. W. Ellis of Orange for brick and cement work on proposed electric-power plant on Sabine River.

FERTILIZER FACTORIES

Ala., Dothan.—Houston Cotton Oil & Fertilizer Co. incorporated with \$4000 capital stock; Joe Baker, president; J. R. Gwaltney, secretary-treasurer.

Ga., Donalsonville.—T. J. Shingler & Bro. are promoting establishment of fertilizer plant.

Va., Ocraan.—Bellows & Squires incorporated, with Joseph F. Bellows president, to establish fertilizer factory. (See "Miscellaneous Manufacturing Plants.")

FLOUR, FEED AND MEAL MILLS

Ala., Thorsby.—F. E. Gronquist will install equipment for roller process flour mill.

S. C., Rock Hill.—Ware Farm, incorporated by J. W. Ware and others, will operate grist mill. (See "Miscellaneous Enterprises.")

Tenn., Humboldt.—Humboldt Milling Co. incorporated with T. F. Stubbs manager, Union City, Tenn.; will operate roller mills and elevator; J. R. Evans, Humboldt, will be miller.

Va., Norfolk.—Francis G. Hood Company, Penton, Mich., will probably establish plant for manufacturing cattle food and cooperative.

FOUNDRY AND MACHINE PLANTS

Ala., Woodlawn—Pumps.—Birmingham Manufacturing Co., W. A. Gibson, president, Birmingham, Ala., will establish plant at La Cross Station, near Woodlawn, to manufacture steam and hand pumps.

Ky., Covington—Tools.—Sebastian Lathe Co. is planning to erect addition to plant; will construct 85x45-foot brick building for present wareroom use; no machinery needed; Benjamin Sebastian, president, Box 729, Cincinnati, O.

Ky., Earlington—Machine Plant.—Earlington Machine Works incorporated with \$10,000 capital stock by M. Hanna, Sr., C. A. Hanna and Andrew Hogg.

Ky., Louisville—Iron Works.—Ewald Iron Works incorporated with \$500,000 capital stock by estate of L. P. Ewald, L. W. Botts, C. H. Gibson and others.

Mo., Joplin—Pumps.—American Pump Co. incorporated with \$10,000 capital stock by E. H. Heaton, N. S. Heaton and J. A. Hardy, Sr.

Tenn., Bristol—Iron Works.—Dominion Iron Works incorporated with \$50,000 capital stock; S. G. Turnbull, president; L. B. Turnbull, Jr., vice-president; J. W. Price, secretary-treasurer.

Tex., Houston—Sheet-metal Works.—Houston Blow Pipe and Sheet Metal Works incorporated with \$5000 capital stock; F. W. Meyers, president; W. B. Clint, vice-president; A. McGhee, Jr., secretary; will continue establishment now at 2101 East Nance St.; contemplates erection of larger plant.

Va., Big Stone Gap—Castings, etc.—Walter E. Edmonds, manager of Eagle Iron Works at Norfolk, Va., awarded contract for construction of casting-house, machine-room, cupola, engine-house and office building; will equip for manufacturing castings and general repair work.

Va., Richmond—Forgings.—Richmond Forgings Corporation purchased Ballard Farm, near Acca Station, and will erect plant to replace structure at Belle Isle; awarded contract to John Drever, Richmond, for erection of 60x160-foot building and smaller structure; steel with wood floors; cost \$10,000; will install new machinery; manufactures drop forgings. (See "Machinery Wanted.")

Va., Richmond—Locomotives.—American Locomotive Co., 30 Church St., New York (recently reported to expend \$500,000 for enlargements), advises that all improvements under consideration are included in those outlined previously.

GAS AND OIL DEVELOPMENTS

La., Jennings.—Louisiana Well & Supply Co. incorporated with \$10,000 capital stock; Thomas R. Hincey, president; Timothy C. Brady, vice-president; J. A. Smith, secretary; John P. Burgin, treasurer.

La., Jennings.—Rowson Oil Co. incorporated with \$25,000 capital stock; G. B. Ziegler, president; W. A. Rowson, vice-president; G. E. Tarbox, secretary-treasurer.

Mo., Webb City.—George R. Rigdon is promoting construction of 16-inch oil pipe line from Delaware pool in Oklahoma to Jasper county, 70 miles long.

N. C., Charlotte.—Indian Refining Co., Cincinnati, O., will, it is reported, establish distributing plant; cost several thousand dollars.

Okl., Okmulgee.—Burca Oil Co. incorporated with \$5000 capital stock by R. J. Burgess, R. L. Adams, both of El Reno, Okla., and others.

Tex., Fort Worth.—Woodward Babcock, New York, purchased gas plant, mains and service pipes of Fort Worth Light & Heating Co.; entered into agreement with Consumers' Light & Heating Co. to use mains in distributing natural gas from Clay county fields; will construct 150 additional miles of mains and service pipes. (Previously mentioned.)

Tex., Houston.—R. J. Weis Oil Co. incorporated with \$6000 capital stock by A. C. Bell, J. L. McNee, G. W. De Moss and H. G. Tully.

Tex., Stamford.—Texas Company, main office, Houston, Tex., will erect depot, storage-rooms, etc.; cost of improvements, \$10,000.

ICE AND COLD-STORAGE PLANTS

Fla., Miami.—J. N. Lummus and associates purchased plant of Florida East Coast Ice & Cold Storage Co.; will install additional 35-ton machine and make other improvement.

Fla., Miami.—Miami Ice & Cold Storage Co. incorporated with \$50,000 capital stock by William M. Brown and others; will erect building.

Fla., Ocala.—Crystal Ice, Cold Storage & Canning Co. will open building proposals in from 30 to 60 days for erection of concrete or brick plant recently noted to be rebuilt; cost of machinery \$70,000; not yet ready for bids on machinery.

Ga., Atlanta.—Atlantic Ice & Coal Corporation, Ernest Woodruff, president (recently reported incorporated with \$8,000,000 capital stock under Richmond, Va.), acquired control of Atlanta Coal & Ice Co., Atlanta Crystal Ice Co., Chattanooga, Tenn.; Columbus Ice & Coal Co., Columbus, Ga.; Central Ice Works, Macon, Ga.; Athens Ice & Coal Co., Athens, Ga., and People's Ice Co., Augusta, Ga. will erect two plants in cities near Atlanta; combined daily capacity of purchased plants 1600 tons of ice and between 40,000 and 50,000 tons storage capacity.

Ga., Elberton.—Home Cotton Mills will establish 15-ton ice plant; building erected; prices on machinery secured.

Ga., Savannah.—South Atlantic Packing & Provision Co. will probably increase capacity of ice plant nearly 100 per cent.

Md., Annapolis.—Parlett & Parlett will issue \$40,000 of bonds to establish ice plant.

Md., Baltimore.—Independent Ice Co., 309 311 North Holliday St., purchased plant of Vacuum Ice Co., 28-40 South Front St., and will probably erect new plant to replace present structure.

Okl., Cherokee.—Alfalfa Ice Co. organized with \$15,000 capital stock by Link Swisher and others; will establish 20-ton ice plant.

IRON AND STEEL PLANTS

Ala., Anniston—Iron Furnace.—Woodstock Iron & Steel Corporation, J. M. Barr, president, has, if reported, blown out iron furnace for repairs.

Ala., Gordon Heights, P. O. at Bessemer—Horseshoes, Bar Iron, etc.—Birmingham Horseshoe & Rolling Mill Co. incorporated with capital stock of \$150,000, and will increase to \$1,000,000. N. K. Reed, president; W. T. Shipe, vice-president, both of Middleton, O.; T. R. McCarty, secretary; W. A. Porter, treasurer, both of Birmingham, Ala.; will build plant equipped with cinder bottom and busheling furnaces, much bar and finishing mill, heating furnaces, etc.; electric power; daily output, 100 tons bar iron, 400 kegs horseshoes, etc.; cost \$250,000; will also install cooperage; engineer in charge, E. L. Penruddocke, Brown-Marx Bldg., Birmingham, Ala.; contract for construction awarded to Birmingham Construction Co., Mr. Penruddocke, engineer in charge.

LAND DEVELOPMENTS

Ala., Birmingham.—East Lake Land Co. purchased for development 550 acres of land; will divide into country home sites and make other improvements.

Ala., Mobile.—Orchards Heights Improvement Co. incorporated with \$10,000 capital stock by J. B. Driver, Chicago, Ill.; W. M. Rasmus, Crichton, Ala., and S. S. Driver, Chicago, Ill.

Ala., Mobile.—Guaranteed Mortgage & Trust Co. will issue \$30,000 of bonds for improvements to Bon-Air estate.

Fla., Tampa.—F. W. Bosshard, Moorehead, Minn.; T. R. C. Crowell, Fargo, N. D.; A. H. Marshall, Des Moines, Iowa, and E. Bossard, West Concord, Minn., now registered at The De Soto, Tampa, are planning purchase of land for colonization.

Fla., Allapaha.—J. A. J. Henderson, Ocala, Fla., will erect mill at Allapaha; has made no definite plans for development of 5000 acres Berrien county turpentine and sawmill timber recently noted purchased.

Ga., Summerville.—R. Y. Zachry and N. C. Raymond purchased 18 acres of land for development; will subdivide into lots 100x150 feet, streets, etc.

Okl., Frederick.—Frederick North Side Investment Co. incorporated with \$90,000 capital stock by F. D. Stalford, L. J. Holloman, J. L. Lair and W. A. Stinson.

Okl., Oklahoma City.—South Oklahoma Town Co. increased capital stock from \$50,000 to \$1,000,000.

Tex., Dallas.—Central Land Co. incorporated with \$20,000 capital stock by T. L. Camp, Alex. Camp and B. M. Gliddens.

Tex., Dallas.—Baird Development Co. incorporated with \$10,000 capital stock by J. V. Baird, H. L. Scales and G. G. Baird.

Tex., Pastura (not a postoffice).—Pastura Townsite Co. (recently reported incorporated under Stamford, Tex., with \$5000 capital stock) will develop town of Pastura, owned jointly by company and Kansas City, Mexico & Orient Railroad, C. H. Webster, chief engineer, Sweetwater, Tex.; contemplates erecting depot by June 1; T. B. Clark, secretary Pastura Townsite Co., Stamford, Tex.

Va., Norfolk—Delaware Development Co. incorporated with \$45,000 capital stock; J. T. Lank, president, Lewes, Del.; Walter Sparking, vice-president, Petersburg, Va.; P. Blount, secretary-treasurer, Norfolk.

W. Va., Wheeling.—Cabell Land Co. incorporated with \$5000 capital stock by W. H. Lemley, John F. Ellis, H. G. Bowman and others.

W. Va., Huntington.—Home Land Co. incorporated with \$50,000 capital stock by J. C. Rardin, Jr., G. W. Keller and others.

LUMBER-MANUFACTURING PLANTS

Ark., Huttig.—Wisconsin Lumber Co., Chicago, Ill., will establish hardwood mill; capacity 50,000 feet daily; will use oak timber on Union Sawmill Co.'s lands in Union county, Arkansas, and Union parish, Louisiana.

Ark., Jonesboro.—Portia (Ark.) Lumber

Co. will establish \$40,000 band mill; will erect building 40x132 feet; three stories.

Fla., Pasco County.—Ingram-Dekie Lumber Co., Tampa, Fla., purchased sawmill privileges on 5000 acres of land in Pasco county.

Fla., Pasco County.—J. L. Green purchased sawmill privileges on timber lands in Pasco county.

Florida.—H. C. Ferriol & Co., Fergus Falls, N. D., have option on 303,000 acres of timber land in Hillsboro, De Soto and Manatee counties, Fla.; contemplate establishing sawmills and locating Northwestern farmers.

Ky., Ashland.—Dawkins Building & Manufacturing Co. incorporated with \$10,000 capital stock by W. H. Dawkins, S. S. Willis and W. E. Berger.

Mo., Liberty.—James Costello Lumber Co. incorporated with \$25,000 capital stock by James Costello, Anna Costello and W. J. Kelley.

Mo., Rolla.—Wills Land & Lumber Co. incorporated with \$10,000 capital stock by J. Wills, Jr., Mona F. Wills and W. D. Jones.

Mo., Kansas City.—Automobiles.—Standard Automobile Co. incorporated with \$10,000 capital stock by R. W. Coleman, H. F. Lang, J. H. Land and others.

Missouri—Sand-blast Stone Cleaning.—Missouri Sand Blast Stone Cleaning Co. incorporated with \$5000 capital stock by J. J. Rooney, L. L. Smith and G. W. Dretzinger, Jr., all of Chicago, Ill.

Mo., St. Louis.—Printing.—Rush Printing Co. incorporated with \$15,000 capital stock by T. M. Sayman, J. H. Barsachs and Evangeline Walkenhorst.

Mississippi.—Oliver-McAvoy Timber Co., Bay Springs, Miss., is negotiating for large tract of timber in Eastern Pike and Western Marion counties.

N. C., Goldsboro.—Empire Manufacturing Co. will establish plant to manufacture lumber, etc.; will erect 150x250-foot brick main building at cost of \$10,000; construction by company; bids for machinery now being received; daily capacity 15,000 to 20,000 feet pine and 12,000 to 15,000 feet gum veneer; N. O'Berry, president; A. H. Edgerton, vice-president, treasurer and manager. (See "Machinery Wanted.")

N. C., Lumberton.—Kingsdale Lumber Co., Kingsdale, N. C., contemplates erection of plant to replace plant previously reported burned at Kingsdale.

N. C., Tarboro.—Automobiles.—Edgecombe Automobile Co. incorporated with \$5000 capital stock by W. A. Hart and others.

N. C., Old Fort.—Frank Potter, Norwich, Conn., and Frank Keefe, Stafford Springs, Conn., will establish lumber plant.

Okl., Oklahoma City.—Oklahoma Planing Mill Co., 1006 West Washington St., awarded contract to Kennedy & Hobson, Oklahoma City, for planing mill recently noted to be built by M. E. McCoskey, 9 Southwestern Ave.; two stories; brick; 72x140 feet; cost \$12,000; machinery partially installed. (See "Machinery Wanted.")

S. C., Bishopville.—Du Rant-Bennett Lumber Co. incorporated with \$3500 capital stock.

Tenn., Knoxville.—Yellow Pine Lath Co. incorporated with \$50,000 capital stock by Norman B. Morrell, L. H. Waring, W. W. Lee and others.

Tenn., Sevierville.—Robert J. Denton, Knoxville, Tenn., representing English capitalists, purchased 30,000 acres of timber land in Smoky Mountains at price reported to be \$500,000; purchasers contemplate development by timber cutting, erection of sawmills, etc.; understood will construct railway through land and arrange for mill of large capacity near Sevierville.

Tenn., Spivey.—Spivey Manufacturing Co. (recently reported incorporated with \$10,000 capital stock) will manufacture lumber, axe-handles, etc.; building erected; P. T. Biles, president; S. Carter, manager. (See "Machinery Wanted.")

Tenn., Manchester.—Anderson-Stegall Manufacturing Co. incorporated with \$25,000 capital stock by C. H. Anderson, G. B. Fisher, G. W. Stegall and others.

Tex., West.—Cotton Belt Lumber Co. incorporated with \$12,000 capital stock by W. R. Glasgow, M. E. Carothers and W. B. Martin.

Tex., Winnie.—Winnie Lumber Co. incorporated with \$5000 capital stock by A. B. Hall, Joseph H. Hoopes and John Hoopes.

Va., Fredericksburg.—Fredericksburg Lumber Co. incorporated with \$100,000 capital stock; Edgar Marshall, president, Buckner, Va.; H. F. Burham, vice-president; J. H. Woody, secretary-treasurer, both of Mineral, Va.

Va., Narrows.—Narrows Lumber & Manu-

facturing Co. will rebuild plant reported burned; loss \$20,000.

W. Va., Raleigh County.—W. M. Ritter Lumber Co., Oak and Poplar Sts., Columbus, O., purchased 20,000 acres of timber land on Winding Gulf, Stone Coal and Slab Fork of Guyandotte River, estimated to contain 142,000,000 feet of stumpage.

METAL-WORKING PLANTS

Md., Baltimore—Cans.—American Can Co., main office 447 West 11th St., New York, is planning improvements; will either make extensions to plant at Oak and 25th Sts. or at Boston and Hudson Sts., or erect entirely new plant.

Mo., St. Louis—Hinges.—C. Hager & Sons Hinge Manufacturing Co., 2427 De Kalb St., awarded contract to Hartman Construction Co., St. Louis, for erection of factory building recently noted; fireproof structure; 85x144 feet; cost \$25,000; plans by Helfensteller, Hirsch & Watson, St. Louis.

Okla., Muskogee—Pipe Preserving.—David W. Pyle, Guthrie, Okla., reported to organize stock company to promote preservation of interior of water-storage standpipes.

Tenn., Huntingdon—Iron and Sheet Metal Eason & Severance Syndicate incorporated with \$25,000 capital stock by A. A. Eason, V. C. Severance, W. E. Halley and others.

Va., Roanoke—Stamping and Enameling.—Roanoke Stamping & Enameling Corporation organized with \$75,000 capital stock; E. R. Chick, president; M. W. Turner and E. A. Thurman, vice-presidents; W. A. Blaxton, treasurer; J. W. Crawford, secretary and manager; will take over plant and equipment of Roanoke Stamping & Enameling Co.; no further machinery needed at present.

MINING

Ala., Birmingham—Iron.—Chilton Iron & Mining Co. incorporated with \$25,000 capital stock by W. W. and Eli Shortridge and G. Rotholz.

Ala., Citico (not a postoffice)—Iron.—Hammond-McDuffie Mining Co. incorporated with J. W. Hammond, president; N. H. McDuffie, general manager; R. W. Crane, secretary, all of Gadsden, Ala.

Ark., Maumee.—Wisconsin & Missouri Mining & Investment Co. incorporated; Joseph Barcume, president; Peter T. Verhoeff, vice-president; E. E. Scofield, secretary; Ed. Zimmerman, general manager.

Ga., Atlanta—Gold.—Sautee Gold Mining Co. incorporated with \$20,000 capital stock by W. E. Jenkins, T. R. Bennett, J. P. McRee and others.

Miss., Raleigh—Lead, Zinc, etc.—Mississippi Mineral Exploration & Development Co. (recently reported incorporated with \$30,000 capital stock, will lease and develop mineral lands; A. J. Tullis, president; P. F. Tanner, vice-president; O. S. Cantwell, secretary; J. M. Martin, treasurer.

Mo., Joplin—Lead and Zinc.—Gundling Zinc & Lead Co. incorporated with \$500,000 capital stock; Chas. H. Baldwin, president; G. Harry Gundling, treasurer; A. E. Spencer, secretary; Harry Gundling, manager; will develop 132½ acres; daily capacity 20 to 25 tons zinc and lead concentrates; machinery contracted.

Mo., Joplin—Lead and Zinc.—Beth Mining Co. incorporated with \$30,000 capital stock by William H. Barnett, Charles F. Noble and William M. Pye.

Miss., Gulfport—Iron Pyrites, etc.—W. W. Baucum has option on and is planning development of iron pyrites and iron-ore properties.

N. C., Charlotte—Gold.—Piedmont Placer Mining Co. incorporated with \$10,000 capital stock by W. H. Clark, T. J. Walker and others to dredge for gold in Catawba River; is reorganization of company formerly operating in same location.

Tenn., Bristol—Slate.—Kingsport Slate Corporation incorporated with \$50,000 capital stock; S. S. Kirkpatrick, president; Jonesboro, Tenn.; Thomas Evans, vice-president; P. V. Hogan, secretary-treasurer, both of Johnson City, Tenn.

Va., Evington—Manganese.—Evington Manganese Co. incorporated with \$15,000 capital stock; Fleming Saunders, president; M. G. Saunders, vice-president; C. T. Saunders, secretary.

Va., Scottsville—Silica.—Beal Bros. and others will develop silica quarries; establish plant with capacity of 40 tons of ground silica daily.

MISCELLANEOUS CONSTRUCTION WORK

Fla., Fort Pierce—Docks.—St. Lucie County Commissioners will construct docks in con-

nexion with hard-surface roads, for which bond issue of \$200,000 was recently noted; docks to be located on west side of Indian River; average length, 300 feet; plans not made; engineer not secured; E. S. Williams, member Board of Bond Trustees. (Previously mentioned.)

La., Mandeville—Wharf.—Newman & Hein, Mandeville, have let contracts for material for construction of town wharf; length, 82 feet; wood; cost \$1375. (Newman & Hein recently noted to have received contract.)

La., Marksville—Levee.—Red River and Bayou des Glaises Levee and Drainage Board, Samuel W. Gardner, president, will open bids February 1 for construction of Davids Ferry South No. 2 levee on Red River in Avoyelles parish. (See "Machinery Wanted.")

La., New Orleans—Canal.—Intercoastal Canal Board received report of committee on construction of proposed canal to extend along Gulf coast from St. George Sound, Fla., to Rio Grande; report will be forwarded to Congress, together with recommendations of board; Col. Lansing H. Beach, chief of U. S. Engineers, New Orleans, is senior member of board.

La., New Orleans—Wharf.—Board of Port Commissioners will open bids January 18 for construction of A. Dumser wharf; A. C. Bell, Hibernia Bank and Trust Bldg., New Orleans, is engineer of Board. (See "Machinery Wanted.")

La., St. Bernard—Levee.—Lake Borgne Basin Levee District will construct levee around caving in river bank; bids will be opened in office of Board of State Engineers, New Orleans, La., January 18; will contain 22,500 cubic yards.

N. C., Wilmington—Bulkhead.—H. W. Crouch, Mount Pleasant, S. C., is lowest bidder at \$4584.36 for furnishing material and constructing pile and timber bulkhead in Cape Fear River opposite Wilmington.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Construction.—Birmingham Construction Co. incorporated with capital stock of \$10,000; N. K. Reed, president; W. T. Shipe, vice-president, both of Middletown, O.; secretary, T. R. McCarty; treasurer, W. A. Porter, both of Birmingham; engineer in charge, E. L. Penruddock, Brown-Marx Bldg., Birmingham; will undertake general construction in connection with plant of Birmingham Horeshoe & Rolling Mill Co., for details of which see "Iron and Steel Plants."

Ala., Uniontown—Alfalfa Cultivation.—Company organized with \$50,000 capital stock; W. H. Tayloe, president, Uniontown; E. W. Collins, vice-president, Gallion, Ala.; J. M. Richeson, secretary-treasurer and general manager, Uniontown; will purchase 950 acres of land and cultivate alfalfa.

Ark., Jonesboro—Rice Cultivation.—Company organized with \$300,000 capital stock; John J. McPherson, president; Oscar F. Mann, vice-president; John E. Mann, secretary-treasurer, all of Memphis, Tenn.; to engage in rice cultivation.

Ark., Poinsett County—Rice Cultivation.—Honduras Rice Co. (recently reported incorporated under Memphis, Tenn., with \$10,000 capital stock) will cultivate rice land in Poinsett county; J. Monroe Williamson, Memphis, will be president; Robert H. Stickley, secretary and treasurer; W. T. Guwin, engineer in charge; main office, 72 Porter Bldg., Memphis, Tenn.

Ark., Little Rock—Electric Supplies.—Oklahoma Auto Supply Co. incorporated with \$25,000 capital stock by E. W. Watts, R. H. Rae, William Bain and others.

Ala., Atlanta—Printing.—Metropolitan Printing Co. incorporated with \$10,000 capital stock by R. L. E. Dunn, W. K. Dunn and John G. Flowers.

Ala., Atlanta—Publishing.—Atlanta Star Publishing Co. incorporated with \$5000 capital stock by R. L. E. Dunn, W. K. Dunn and John G. Flowers.

Ala., Rome—Steam Laundry.—Southern Steam Laundry will erect building; 30x125 feet; brick.

Ala., Siloam— Implements, etc.—Siloam Supply Co. incorporated with \$10,000 capital stock by James B. Dolvin, D. Davidson, J. F. Rhodes and others.

Ky., Louisville—Automobiles.—Straeffer Arterburg Motor Car Co. incorporated with \$4000 capital stock by G. Edgar Straeffer, Burton H. Arterburg and George Straeffer, Jr.

Ky., Louisville—Automobiles.—Southern Auto Company incorporated with \$18,000 capital stock by W. H. Montgomery, W. H. Leusing and William A. Baker.

Ky., Louisville—Printing.—Westerfield-Bonte Company incorporated with \$25,000

capital stock by C. M. Westerfield, F. W. Bonte and John J. David.

Ky., Louisville—Garage.—Adam Vogt and J. M. Hunter will erect garage.

La., Lake Charles—Publishing.—American Press Co., Ltd., incorporated with \$50,000 capital stock; Guy Beatty, president; Wm. E. Krebs, vice-president; A. M. Jones, secretary-treasurer.

La., New Orleans—Garage.—Myatt-Dicks Motor Co. organized with \$50,000 capital stock; George E. Dicks, president; D. O. Myatt, secretary-treasurer; will erect garage; site 45x150 feet.

Md., Allegany County—Orchard.—Kirk Orchard Co. (main office, Pawpaw, W. Va.) incorporated with \$10,000 capital stock; will develop 100 acres of land; peach and apple orchard; will set out about 10,000 trees; later will develop 300 or 400 more acres, having orchard of about 50,000 trees; J. N. Kirk, president; W. T. Kirk, vice-president; J. R. Kirk, secretary and treasurer.

Md., Cambridge—Repair Shop.—Daniel B. Prettyman, Taylor's Island, Md., is president of company organized with \$10,000 capital stock to establish automobile repair shop.

Mo., Canton—Grain Elevator.—Canton Elevator Co. incorporated with \$100,000 capital stock by P. N. Hanna, Mattie E. Hanna, A. N. Hahn and others.

Mo., St. Joseph—Publishing.—Farm & Stock Publishing Co. incorporated with \$25,000 capital stock by F. J. Wright, W. C. Campbell and F. L. Campbell.

Mo., St. Louis—Contracting.—Steel Roof Truss Co. incorporated with \$25,000 capital stock by Julius H. Koehler, Henry A. Ferguson and Francis H. Krenning.

Mo., St. Louis—Automobiles.—Haynes Automobile Co. incorporated with \$5000 capital stock by H. B. Kline, B. G. Clark, E. M. Marten and others.

Mo., St. Louis—Contracting.—Tudor Dwellings Co. incorporated with \$25,000 capital stock by James H. Gardner, Fred Benson, Horton C. Ryan and others.

Mo., St. Louis—Engraving.—Sanders & Meisenheimer Engraving Co. incorporated with \$15,000 capital stock by Louis Meisenheimer, Earl Sanders and J. V. McGowin.

Mo., St. Louis—Motor Cars.—Tower Grove Motor Car Co. incorporated with \$5000 capital stock by Thomas W. Wiley, Richard P. McClure, Jr., Horace B. Wiley and Frederick L. Schleicher.

N. C., Clayton—Publishing.—Clayton Enterprise Publishing Co. incorporated with \$10,000 capital stock by E. R. McBryde, C. M. Thomas, J. J. Young and Ashley Horne.

N. C., Greensboro—Cleaning and Dyeing.—R. N. Hadley, manager of Columbia Steam Laundry, will establish cleaning and dyeing plant; machinery purchased.

N. C., Henderson—Drying Plant.—Charles E. Fuller contemplates erection of steam drying plant for tobacco; will erect cotton-oil mill and cotton gins. (See "Machinery Wanted.")

N. C., Statesville—Hardware.—Evans-White Hardware Co. incorporated with \$60,000 capital stock by A. J. Evans, Statesville, and J. H. White, Greensboro, N. C.

Okla., Muskogee—Construction.—Southwestern Construction & Pavement Co. incorporated with \$25,000 capital stock by Frank G. Mason, H. G. Davis, Myron White and C. E. Holderman.

Okla., Muskogee—Automobile Supplies.—Oklahoma Auto Supply Co. incorporated with \$25,000 capital stock by E. W. Watts, R. H. Rae, William Bain and others.

Okla., Muskogee—Concrete Construction.—Ham Method Engineering Co. organized with \$50,000 capital stock to promote new method of concrete construction; Dr. Leo E. Bennett, president; directors include T. H. Martin, Franklin Miller and others.

Okla., Oklahoma City—Grain Elevator.—George G. Sohlberg, J. P. Mullin, D. C. Kolp, R. H. Drennan and others are interested in establishment of terminal grain elevator; steel and fireproof structure; capacity 50,000 to 1,000,000 bushels of grain; cost between \$250,000 and \$500,000.

Okla., Sapulpa—Typewriters.—Interstate Typewriter Co. incorporated with \$5000 capital stock by Clarence Davis, K. C. Merrigan and Cora Davis.

Okla., Tulsa—Stockyards.—Tulsa Stockyards & Commission Co. (recently reported incorporated with \$25,000 capital stock by Charles S. Hahn and others) will establish stockyards on 15 acres of land; 1100 feet of trackage; 41 pens, 15 of which will be covered and 9 to have chutes leading directly to them, and be 50 feet square; subdivisions of yards outside of loading pens to be 75x100

feet; will erect storage-house for provisions, one story, corrugated iron, 35x74 feet; also office and exchange building, one story, 8 or 10 rooms; capacity of plant, 1000 head of cattle and 2000 head of both sheep and hogs daily.

S. C., Columbia—Laundry.—Capital City Laundry and Dye Works, J. A. Young, manager, awarded contract to Hazel Thomas, Columbia, for addition to plant recently noted; 75x69 feet; brick; will install laundry machinery; cost \$10,000.

S. C., Rock Hill—Farm.—Ware Farm incorporated with \$30,000 capital stock by J. W. Ware, S. L. Patterson and L. L. Ware; will cultivate farm lands and operate cotton gin and grist mill.

S. C., Union—Laundry.—T. K. Hudgens, Greenville, S. C., contemplates establishment of laundry.

Tenn., Bristol—Abattoir.—Bristol Board of Trade is promoting establishment of abattoir.

Tenn., Nashville—Stockyards.—Perry & Lester Stockyards Co. incorporated with \$40,000 capital stock by Alex. Perry, B. F. Lester, R. L. Bolling and others.

Tex., Brownsville—Plumbing and Machinery.—Valley Plumbing & Machinery Co. incorporated with \$10,000 capital stock by S. C. Tucker, J. W. Lamb and E. L. Burks.

Tex., Dallas—Laundry.—Orlant Laundry Co., Otto Herald, president, 408 Wood St., has purchased machinery for plant recently noted to be enlarged; plans for addition by E. E. Parker; cost \$5000; contractor, Herman Brand, 667 North Central Ave., Dallas.

Tex., Denison—Grain Elevator.—Denison Grain & Elevator Co. will erect grain elevator to replace burned structure; cost \$60,000.

Tex., Denison—Grain Elevator.—Denison Mill & Elevator Co. will erect \$60,000 grain elevator.

Tex., Nacogdoches—Hardware.—Tucker-Sutton Hardware Co. incorporated with \$10,000 capital stock by J. M. Tucker, Sam Britton, Jr., and J. A. Spears.

Tex., Port Arthur—Nurseries.—Port Arthur Nursery Co. incorporated with \$40,000 capital stock by Fred Clark, R. H. Woodsworth and G. E. Smith.

Tex., Wharton—Laundry.—J. P. Wensley contracted with East Texas company to install laundry.

Va., Lynchburg—Automobiles.—Apperson Lee Motor Co. incorporated with \$25,000 capital stock; R. D. Apperson, president; L. G. Apperson, vice-president; G. O. Lee, secretary-treasurer.

Va., Norfolk—Bridge Contractors.—E. J. Dewine Company incorporated with \$5000 capital stock; E. J. Dewine, president; S. W. Wilber, secretary-treasurer.

Va., Norfolk—Photographs.—Columbia Company incorporated with \$15,000 capital stock; C. P. Frick, president; B. Fearing, vice-president; H. O. Goshorn, secretary.

Va., Roanoke—City will probably vote on \$40,000 bond issue for improvements to fire department. Address The Mayor.

W. Va., Bramwell—Roofing.—Bramwell Roofing Co. (W. C. Kane interested) will rebuild structure recently reported burned; will erect 20x60-foot concrete-block structure; cost \$3000; contracts for roofing and metal cornice work. (See "Machinery Wanted.")

W. Va., Charleston—Lumber.—F. L. Lory & Sons incorporated with \$25,000 capital stock by Ed Lory, Fred Lory, Sr., Fred Lory, Jr., Albert Lory and others.

W. Va., Princeton—Coal and Coke.—Ball Fuel & Supply Co. incorporated with \$10,000 capital stock by J. K. Ball, R. P. Ball, F. L. Ball and others.

MISCELLANEOUS MANUFACTURING PLANTS

Ala., Anniston—Paper.—B. F. A. Saylor will establish plant to manufacture paper from pine pulp; capacity 10 tons daily.

Ala., Cullman—Mastic.—Alabama Bitumen Co. incorporated with \$5000 capital stock; acquired bitumen deposits and will manufacture mastics; Leo K. Steiner, president; Max Schmidt, vice-president; F. M. Billing, secretary-treasurer. (See "Machinery Wanted.")

Ala., Birmingham—Medicine.—Great American Home & Farm Medicine Co. incorporated with W. W. Hollingsworth president, L. B. Bradley vice-president, C. B. Hollingsworth secretary-treasurer.

Ala., Birmingham—Mattresses.—Faultless Mattress Co. (recently noted reorganized and to erect additional structure) will open proposals February 1 for erection of 40x60-foot \$200 mill-construction building; no further machinery needed; capacity about 200 daily; A. M. Williamson, president; W. Y.

Prince, vice-president; A. F. Inman, secretary and treasurer.

Ala., Dothan—Cigars.—Houston Cigar Co. incorporated by J. C. Moore, John Estine, J. K. McCarty and others.

Ala., McAdory (not a postoffice)—Creosoting.—Tennessee Coal, Iron & Railroad Co., Birmingham, Ala., awarded contract, it is reported, for erection of \$15,000 creosoting plant; construction under supervision of Solon Jacobs & Co., Birmingham, Ala.

Ala., Piedmont—Paper.—F. A. Saylor will, it is reported, establish plant for manufacturing paper from pine pulp; will operate in connection with turpentine plant, using pine pulp after turpentine has been extracted; will enlarge plant about three times present size; capacity, 750 gallons of turpentine and 10 tons of paper daily; will install chipping machine.

D. C., Washington—Films.—Capital Film Co. incorporated with \$50,000 capital stock by Charles P. Sudwarth, 510 12th St. N. W.; H. B. Campbell, C. T. Handler and others; will manufacture films for moving pictures.

Fla., Dade City—Turpentine.—George A. McLeod, Tampa, Fla., purchased turpentine holdings of E. J. Gasque in Pasco county, consisting of large stills, timber land, etc.; will operate turpentine farms.

Fla., Jacksonville—Medicine.—Dixon Saw-Palmetto Medicine Co., J. Marion Dixon, manager, 215 Newnan St., contemplates manufacture of saw-palmetto medicines and other preparations. (See "Machinery Wanted.")

Fla., Jacksonville—Turpentine.—J. R. Stone, S. R. Cobb, W. S. Jordan and others purchased 25,000 acres of timber land; propose to turpentine tract and afterwards market for colonization.

Fla., Lake City—Bottling.—Lake City Bottling Co. incorporated with \$4000 capital stock; J. A. Leslie, president; A. H. Hoffmann, vice-president; J. T. Hunt, secretary-treasurer.

Fla., Tallahassee—Fruit Cider, etc.—Leon Fruit Cider Co. will establish plant for manufacturing fruit cider and phosphate.

Fla., West Tampa, Postoffice Tampa—Cigars.—Boltz, Clymer & Co., Philadelphia, Pa., will establish cigar factory.

Ga., Atlanta—Suits, etc.—Southern Suit & Skirt Co. organized by G. W. Seay and others; leased building at 96 and 98 Whitehall St. and will establish plant for manufacturing suits, skirts, etc.

Ga., Macon—Oil Refinery.—Proctor & Gamble Company, main office Cincinnati, O., is proceeding with erection of proposed addition to plant.

Ga., Macon—Sewer Pipe.—Morris-Small Company incorporated with \$50,000 capital stock by W. Mercer Morris, R. B. Small, O. B. Morris and J. E. Minter.

Ia., Shreveport—Ice Cream.—Shreveport Ice Cream Co. (Phil Draiss and P. W. McKittrick) will erect building; two stories; brick; basement; cost \$10,000.

Md., Baltimore—Ice Cream, etc.—Gardiner Dairy Co., 520 North Calvert St., awarded contract to John Waters, 23 East Centre St., Baltimore, for erection of building; three stories; brick and reinforced concrete; fireproof; 65x110 feet; cost \$40,000; plans by Baldwin & Pennington, Professional Bldg., Baltimore.

Miss., McComb—Peanuts.—C. Atkinson's Sons Company contemplates establishment of peanut factory.

Miss., Natchez—Drugs.—Natchez Drug Co. will erect building to replace burned structure.

Mo., Carthage—Stone.—George S. Belmdie, G. C. Kellogg and George W. Lawrence purchased plant of Myers Stone Co. and will make improvements to equipment.

Mo., Kansas City—Brakes.—Lynch Railway Automatic Brake Co. incorporated with \$100,000 capital stock by James Lynch, G. A. Dehaven, W. H. England and others.

Mo., Kansas City—Chemicals.—Moore Chemical Manufacturing Co. increased capital stock from \$30,000 to \$60,000.

Mo., Kansas City—Sheets.—Hygenic Sheet Co. incorporated by F. M. Titus, M. Gordon and R. C. Walton.

Mo., St. Clair—Pipes.—St. Clair Pipe Co. (recently reported incorporated with \$7500 capital stock) will establish plant to manufacture cob and wood pipes; J. R. Moore, president; Gilbert Lay, treasurer; company will open proposals about February 1 for erection of 80x36-foot building of probable concrete-block construction; cost within \$2500; machinery mainly purchased. (See "Machinery Wanted.")

Mo., St. Louis—Medicine.—National Medicine Co. incorporated with \$50,000 capital stock by G. H. Rice, A. S. Archer and Fred H. Lynch.

Mo., St. Louis—Chemicals.—Century Chemical Co. incorporated with \$5000 capital stock by R. A. Vaughan, W. M. Hagen and C. F. Hollingsworth.

Mo., St. Louis—Extracts, Essential Oil, etc.—Warner-Jenkinson Manufacturing Co. awarded contract to Hartshorn Barber Realty & Building Co., St. Louis, for erection of plant (recently mentioned); three stories; site 40x128 feet; cost \$25,000; plans by E. Ross Chamberlain, St. Louis.

Mo., St. Louis—Wearing Apparel.—E. W. Magee Manufacturing Co. incorporated with \$3000 capital stock by E. W. Magee, James Smith and John J. Wright.

N. C., Marion—Trousers.—Company organized by E. F. Baker, Mooresville, N. C., and others to establish trousers factory; capacity, 300 pairs daily. (Recently mentioned.)

N. C., Statesville—Flour Bags.—Morrison Produce & Commission Co. interested in proposed organization of company to manufacture flour bags. (See "Machinery Wanted.")

N. C., Statesville—Flour Bags.—Statesville Cotton Mills, Wm. Wallace, president, contemplates installing machinery to manufacture flour bags. (See "Machinery Wanted.")

Okla., Muskogee—Paving.—Parker-Washington Company will replace plant recently reported burned at Muskogee; will rebuild kettles on the ground; president, David McCormick, 4500 Duncan Ave., St. Louis, Mo.

Okla., Oklahoma City—Gas Burners.—Marvel Crude & Hydro Gas Burner Co. incorporated by J. C. Grubbs, J. E. Goss, Isaac William and John E. Goss.

Okla., Muskogee—Tents, etc.—C. C. Henderson Tent & Awning Co. will install additional equipment.

Okla., Tulsa—Oil refinery.—Texas Company, main office, Houston, Tex., will, it is reported, establish oil refinery in West Tulsa; capacity, 7000 barrels of oil daily; cost \$350,000.

Okla., Muskogee—Glass Factory.—Paul Balfay reported to establish factory for window, art, beveled and plate glass.

Okla., Muskogee—Starch and Glucose.—Samuel Plummer reported to erect glucose and starch factory at Falls City, North Muskogee, at cost of \$250,000; to manufacture all by-products of corn; reported to erect two-story 320x100-foot main building, also 75x100-foot structure, with several smaller buildings and an elevator.

S. C., Anderson—Bottling.—Big Four Bottling Co. incorporated by W. F. Cox, J. L. Jones, W. C. King and others; will take over Pepsi-Cola Bottling Co.

S. C., Greenville—Candy.—Greenville Candy Co. will increase capital stock from \$200 to \$500.

S. C., Greenville—Home Water-works—Compressed Air Water-works Co., main office, 1157 Marbridge Bldg., New York, will establish home water system plants; Wm. V. Holley, president; J. C. Fitzgerald, vice-president; Chas. N. McGee, treasurer; Dr. J. P. Carlisle, secretary; company will rent buildings and locate first assembling plant in Greenville; capital stock, \$250,000. (See "Machinery Wanted.")

S. C., Spartanburg—Bottling.—Pepsi-Cola Bottling Co. incorporated with \$10,000 capital stock by A. G. Parris, L. B. Metcalf, S. E. Collins and E. E. Clement.

Tenn., Columbia—Tannery.—Caldwell Tanning Co., Auburn, Ky., leased tannery and will establish plant for manufacturing hide leather, rawhide harness, straps, strings and other rawhide products; will use 200 hides daily.

Tenn., Jackson—Gloves.—Reavis Distributing Co., 528 East Lafayette St., recently reported incorporated with \$20,000 capital stock, contemplates addition of glove-manufacturing machinery; P. O. Box 57. (See "Machinery Wanted.")

Tenn., Knoxville—Gas Plant.—Knoxville Gas Co. will probably enlarge plant.

Tenn., Nashville—Bicycles.—Duncan R. Dorris Company incorporated with 5000 capital stock by Duncan R. Dorris, E. L. Keppler, S. Braswell and others.

Tenn., Winchester—Creamery.—Franklin County Creamery Association, Frank Sprague, president, purchased machinery and awarded building contract for proposed creamery; will manufacture butter, cheese and ice cream; daily capacity butter, 500 pounds. (Recently incorrectly noted as Winchester, Ky.)

Tex., Ballinger—Stock Medicine.—Bolyn Stock Remedy Co. incorporated by R. T. Bolyn, J. H. Kelly and Harry Simmons.

Tex., Dallas—Gas Appliances.—Gas Appliance Co. incorporated by A. W. Peterson, A. Janden and Curtis Hancock.

Tex., Galveston—Ice Cream.—King Schaefer

Ice Cream Co. incorporated with \$10,000 capital stock by August C., Gus Kahn and Sam J. Heyman.

Tex., Houston—Gas-saving Device.—Gas Bill Reducing Co. incorporated with \$25,000 capital stock; J. C. Robertson, St. Louis, Mo., president; L. J. Gilbeau, secretary-treasurer; C. J. Beckham, vice-president, all of Houston; will establish plant for manufacturing gas regulators; offices, Scanlan Bldg.

Tex., Jacksboro—Stone.—Jacksboro Stone Co., B. R. McConnell, general manager, is making arrangements to install large plant. (See Jacksboro Stone & Crusher Co.)

Tex., Jacksboro—Creamery.—Jack County Creamery Co. incorporated with \$500 capital stock by W. P. Stewart, C. E. Patton and F. N. Faxhall.

Tex., Jacksboro—Stone.—Jacksboro Stone & Crusher Co., with offices at Jacksboro and at 115 West 6th St., Fort Worth, Tex., (recently reported incorporated with \$18,000 capital stock), purchased plant of Jacksboro Stone Co. on McConnell spur track; will install new elevator belt and resume operations; manufactures concrete and street-paving rock; no new buildings to be added to plant for a few months; A. J. Birdsong, president; L. L. Cope, vice-president; Chas. E. Patton, secretary-treasurer; B. R. McConnell, manager; Jacksboro Stone Co., B. R. McConnell, general manager, retains stone acreage on Gulf, Texas & Western Railroad Co. at Jacksboro, and contemplates installation of large plant.

Tex., San Marcos—Showcases.—Acme Manufacturing Co. organized with \$20,000 capital stock; S. Woodall, president; Peter Thompson, vice-president; J. H. Barbee, secretary-treasurer; H. Woodall, manager; W. H. Cole, superintendent; will erect building and equip for manufacturing Peter Thompson showcases.

Tex., Stamford—Hay Presses.—Company organized with T. J. Pennell, president; W. D. Bourn, first vice-president; W. R. Adcock, second vice-president; T. F. Jones, secretary; J. F. Callicoate, treasurer; will establish plant for manufacturing hay presses.

Va., Buena Vista—Paper.—Columbia Paper Co. has plans by H. M. Miller, Roanoke, Va., and will receive bids about February 1 for erection of building; mill construction; 32x180 feet; two stories; will install new machinery to increase capacity.

Va., Norfolk—Starch.—Greely Starch & Potato Co., Greely, O., contemplates establishment of plant for manufacturing starch from potatoes.

Va., Norfolk—Ice Cream, Ices, etc.—Hygenie Dairy, Fairbury, Neb., will establish plant to manufacture butter, ice cream, etc.

Va., Ocean—Oil, Fertilizer, etc.—Bellows & Squires incorporated with \$175,000 capital stock; Joseph F. Bellows, president; G. L. Squires, secretary; will manufacture oil, fertilizer, etc.

Va., Richmond—Syrups, etc.—Atlas Specialty Co., F. H. Frayser, president (recently reported incorporated with \$100,000 capital stock), will manufacture syrups and molasses; daily capacity 100 barrels; machinery supplied.

Va., Richmond—Candies.—Dixie Toast Co. incorporated with \$10,000 capital stock; A. M. Baroody, president; J. M. Baroody, vice-president; N. B. Baroody, secretary-treasurer.

Va., Shenandoah—Brooms.—M. A. Ashby contemplates installing machinery to manufacture brooms. (See "Machinery Wanted.")

W. Va., Wheeling—Signs.—Smoot Southern Sign System incorporated with \$10,000 capital stock by Charles S. Smoot, C. L. Benton, B. F. Stout and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ala., Boyles, P. O. at Birmingham.—Louisville & Nashville Railroad, W. H. Courtenay, chief engineer, Louisville, Ky., appropriated \$654,000 for construction of shops for heavy repair work; frame buildings; construction work will soon begin, and will probably be by company's forces; site comprises about 120 acres. (Recently mentioned.)

Ga., Atlanta—Georgia Railway & Electric Co., P. S. Arkwright, president, plans appropriation of \$700,000 for improvements; latter to include several miles of double track, building of 18 cars, erection of repair shop, installation of 1800-horse-power boilers and other machinery in Davis and Butler street plants, extension of cables, additions to gas mains and installation of gasholders, etc.; contract for holder was made last year, and same is being installed; company's superintendent and engineer in charge of im-

provements; will submit proposition to stockholders on January 25.

Md., Baltimore.—Northern Central Railway (controlled by Pennsylvania Railroad) construction of shops, roundhouse, yards, etc., at Highlandtown; A. C. Shand, chief engineer, Broad Street Station, Philadelphia, Pa.

Md., Frederick.—Baltimore & Ohio Railroad, A. M. Kinsman, chief engineer, Baltimore, Md., plans improvements to freight yard and terminal facilities, erection of freight depot and remodeling of passenger station.

Okla., Shawnee.—Chicago, Rock Island & Pacific Railway, J. B. Berry, chief engineer, La Salle St. Station, Chicago, Ill., will replace machine shop (recently noted) without new material in construction with exception of wooden slat rolling doors to replace swing doors.

W. Va., Bluefield.—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., appropriated \$60,000 for remodeling roundhouse.

ROAD AND STREET IMPROVEMENTS

Ala., Birmingham.—City opened bids January 19 for certain vitrified-brick, bituminous, granitoid and asphalt paving; Maury Nicholson, City Engineer.

Ala., Birmingham.—Jefferson County Board of Revenue authorized construction of Jaybird road from Brighton to Dolomite.

Ala., Mobile.—Louisville & Nashville Railroad, John Rose, assistant superintendent, Pollock Bldg., Mobile, will open bids January 22 for relaying 2700 square yards of granite paving between and on either side of its rails on Commerce St., between Beauregard and Conti Sta. (See "Machinery Wanted.")

Ala., Mobile.—Board of Public Works approved plans of Chief Engineer Wright Smith for eighth paving venture, including paving, cement curbing and sewer improvements on Broad St., Spring Hill Ave., North Constitution St. and Davis Ave.; estimated cost \$300,000.

Ark., Paragould.—City contemplates paving principal streets. Address The Mayor.

Fla., Fort Dade, P. O. Egmont.—Bids will be opened January 26 for constructing granite walk. Address Constructing Quartermaster. (See "Machinery Wanted.")

Fla., Palatka.—Putnam county contemplates expenditure of \$100,000 on road construction; bids will be opened February 5; R. F. Ensey, County Engineer; L. C. Stephens, chairman Board of County Commissioners. (County recently noted to contemplate construction of 100 miles of marl, clay and shell roads within next 12 months. (See "Machinery Wanted.")

Fla., Pensacola.—City will construct between 20 and 30 miles of cement sidewalks; bids will be opened March 2; L. Earle Thornton, City Engineer.

Ga., Jackson.—Butts county defeated \$15,000 bond issue for road improvements; J. O. Gaston, chairman Commissioners. (Noted in October.)

Md., Princess Anne.—Somerset County Commissioners will open bids February 1 for grading and macadamizing 1.02 miles of River road; L. H. Whitcraft, roads engineer. (See "Machinery Wanted.")

N. C., Laurinburg.—City will lay about 700 yards of cement sidewalk on Main St. Address The Mayor.

N. C., Newbern.—City awarded contract to Bowe & Page, Charleston, S. C., at \$1.43 per square yard for paving 48,000 square yards of street with brick; \$60,000 available; F. T. Patterson, City Clerk. (Recently mentioned.)

N. C., Raleigh.—Wake County Commissioners will construct one mile of macadam road as experiment.

Okla., Purcell.—McClain county contemplates election to vote on \$80,000 bond issue for bridges and road improvements. Address County Commissioners.

Okla., Tulsa.—City Commission approved plans and specifications of D. C. Fenstermaker, City Engineer, for \$3,451 yards of paving; estimated cost \$225,000.

S. C., Charleston.—Bids will be opened January 29 for road paving, navy-yard, Charleston; William M. Smith, acting chief of Bureau of Yards and Docks, Navy Department, Washington, D. C. (See "Machinery Wanted.")

Tenn., Rutledge.—Grainger county appointed commissioners, who will soon organize, to arrange for building macadam roads, for which \$100,000 was recently noted appropriated; W. G. Corum, County Judge.

Tex., Eagle Lake.—E. A. Fox, San Antonio, Tex., contemplates laying several blocks of cement sidewalks in Covendale Addition.

Tex., Richmond.—Fort Bend county voted \$150,000 bond issue to construct macadamized roads. Address County Commissioners.

Tex., Galveston.—City Commissioners authorized V. E. Austin, Commissioner of Streets and Public Property, to advertise for bids until January 27 on paving 25th St. with vitrified brick; city's portion 4533 square yards of paving, etc.; estimated cost \$9698.68; Galveston Electric Co.'s portion 1183 square yards of paving on four-inch concrete base, etc.; cost \$3514.37; property owners' portion 6527 square yards of paving, etc.; cost \$10,324.51; total expenditure \$23,537.56; A. T. Dickey, City Engineer. (See "Machinery Wanted.")

Tex., Houston.—Harris and Fort Bend County Commissioners (Houston and Richmond, Tex., respectively) are considering construction of road in each county to connect Houston with Richmond.

Tex., Paris.—City contemplates voting on issuance of \$50,000 of bonds for paving Lamar Ave. and Graham St. with rock asphalt. Address The Mayor.

Va., Fincastle.—W. P. Crumpacker, chairman of Board for Botetourt county, address, Roanoke, Va., R. F. D. No. 1, will be in charge of proposed improvements of county road from Troutville to Fincastle; \$6500 will be expended at once; no contracts; equipment supplied.

Va., Norfolk.—City will open bids February 8 for repaving with some smooth material parts of Granby and Chapel Sts.; W. T. Brooke, City Engineer. (See "Machinery Wanted.")

Va., Norton.—City is considering voting on issuance of \$35,000 of bonds for street improvements. Address The Mayor.

Va., Norfolk.—V. V. Purville, chairman Board of Control, advises that city has completed all but about 40,000 square yards of paving work planned for in appropriation of \$600,000 for 1909; work yet to be done will be of other than granite block; bids will soon be invited; W. T. Brooks, City Engineer, is preparing specifications for part of this work and will supervise all of the work when contracts are let. (Previously noted.)

Va., Roanoke.—City will probably vote on issuance of \$255,000 of bonds for street improvements. Address The Mayor.

W. Va., Wheeling.—Pennsylvania Railroad, Alex. C. Shand, chief engineer, Philadelphia, Pa.; Panhandle Traction Co., Wheeling Steel and Iron Works and Ohio county have agreed upon final arrangements for completion of unfinished work on Top Mill road. City Engineer Cook estimates cost at \$23,000.

SEWER CONSTRUCTION

Ala., Montgomery.—Board of Public Works approved plans of Chief Engineer Wright Smith for eighth paving venture, including sewer improvements. (See "Road and Street Improvements.")

Ga., Savannah.—Mayor Tiedeman recommends election for voting on issuance of \$350,000 of bonds for proposed completion of house-drainage system and extension of water mains that would be necessary in connection therewith.

N. C., Sanford.—City will vote February 8 on issuance of \$25,000 of bonds for construction of sewer system. Address The Mayor.

Okla., Oklahoma City.—City will open bids January 24 for construction of lateral sewer in certain portions of Putnam Heights Addition, Central Park Addition, etc.; Bob Parman, City Clerk. (See "Machinery, etc., Wanted.")

Tenn., Cleveland.—City appointed Solomon-Norcross Company, 1622 Candler Bldg., Atlanta, Ga., engineer to prepare plans for installation of sewerage system and sewerage disposal plants; approximate cost \$35,000; survey begun. (Recently noted.)

Tenn., Morristown.—City voted \$40,000 bond issue for construction of sewer system; John Carriger, Mayor. (Recently mentioned.)

Tex., Brownsville.—Brownsville Sewerage Co., William Kelly, president, awarded contract to N. E. Rendall of Brownsville and P. D. Haley, Harlingen, Tex., at \$28,747.40 for construction of sanitary sewer system. (Recently mentioned.)

Tex., Galveston.—V. E. Austin, Commissioner of Streets and Public Property, recommended construction of concrete drain from Ave. M and 29th St. to Market and 12th Sts.; A. T. Dickey, City Engineer.

Tex., Huntsville.—City contemplates construction of sewer system. Address The Mayor.

Va., Norton.—City is considering voting on issuance of \$20,000 of bonds for construction of sewer system. Address The Mayor.

W. Va., Mannington.—City contemplates establishment of sewage disposal system; C. N. Mockler, Mayor, chairman of committee to ascertain cost, etc. (See "Machinery Wanted.")

TELEPHONE SYSTEMS

N. C., Severn.—Hicks Telephone Co. incorporated with \$10,000 capital stock by P. T. Hicks, Lasker, N. C., and J. G. Stancill, Marettsville, N. C.

Okla., Gracemont.—Gracemont & Oney Telephone Co. incorporated by T. M. Franklin, E. C. Luchan and H. E. Horwedel.

Tenn., Bristol.—Virginia-Tennessee Telephone Co. will construct long-distance line, about 35 miles long, between Bristol and Chilhowie, Va.

Tex., Dallas.—Southwestern Telegraph & Telephone Co. will erect exchange building to replace present structure; six or eight stories; steel and fireproof construction; cost \$200,000.

W. Va., Clear Creek.—Clear Creek Telephone Co. incorporated with \$5000 capital stock by J. W. McGinnis, K. M. Jarrell, E. G. Lilly and others.

TEXTILE MILLS

Ala., Huntsville.—Shirting, etc.—Lowe Manufacturing Co. will build addition and install 200 looms; now has 25,000 ring spindles and 270 narrow looms.

Ark., Stamps—Rope and Twine.—Arthur Baker contemplates establishment of cotton twine and rope mill. (See "Machinery Wanted.")

Ga., Hartwell.—Sheeting, etc.—Beaver Dam Manufacturing Co. incorporated by Elbert Fowler, John M. Wright and others; acquired Witham Cotton Mills from Asa G. Candler of Atlanta, Ga., who was mentioned last month as buying the property; will increase capacity; present equipment, 6000 spindles, 186 looms, etc.

Ga., Jackson.—W. J. Massee, president Central Georgia Power Co., Macon, Ga., advises Manufacturers' Record that definite plans have not been formulated for organizing company to build \$650,000 cotton mill lately reported.

Ga., Monticello.—Board of Trade is interested in proposed organization of \$400,000 company to build cotton mill.

Ga., Senoia—Cotton Duck.—Senoia Duck Mills incorporated with capital stock of \$100,000 by L. Ware, Lee Hand, L. E. Arnall and others.

N. C., Cary.—N. C. Hines and associates are forming company to build cotton mill; capital stock, \$100,000.

N. C., Durham.—Bleachery.—Pearl Cotton Mills will, it is reported, build bleachery for sheetings.

N. C., Elizabeth City—Hosiery.—Elizabeth City Hosiery Co. will increase capital stock from \$30,000 to \$60,000 for enlargements; now has 176 knitting machines, etc.

N. C., Elizabeth City—Hosiery.—Elizabeth City Hosiery Co. contemplates erecting one or two additions and installing machinery for new line of cotton hosiery. (Lately reported increasing capital from \$30,000 to \$60,000.)

N. C., Winston-Salem—Gray Goods.—Inverness Mills Co. incorporated with capital stock of \$150,000 by R. J. Reynolds, H. G. Chatham and others of Winston-Salem; Lawrence McRae of Spry, N. C.; James B. Duke of New York and others; will spin and weave; product, gray goods.

S. C., Anderson.—Colored Goods, etc.—Brogan Mill plans increase of capital stock to add 15,000 spindles and accompanying equipment; now has 25,000 ring spindles, 864 narrow looms, etc.

S. C., Lowndesville.—J. P. Gossett, president of Calhoun Mills, Calhoun Falls, S. C., and H. W. Kirby of Lowndesville are organizing \$25,000 company to build cotton mill; previously reported.

S. C., Rock Hill—Cotton Yarns.—Wymojo Yarn Mill will increase capital stock from \$150,000 to \$300,000; present equipment, 5400 ring spindles, etc.; electric-power.

Tex., Galveston.—Bagging.—David Biggs of Kirkwood, Mo., purchased the Galveston Bagging Mills at \$100,000; reports state he will modernize the plant.

Tex., San Antonio.—James F. Ryan has proposition from cotton manufacturers for building large cotton mill; possibly 100,000 spindles.

WATER-WORKS

Ala., Montgomery.—A. R. Gilchrist, City Engineer, has completed estimate of cost of contemplated improvements to water-works

at \$35,000; these will include duplicate set of electric pumping machinery for old pumping station, electric pump for industrial water system, additional lines of mains for parts of city not at present connected, etc.; additional reservoir, to cost \$25,000 additional, not included in estimate. (Recently mentioned.)

La., Baton Rouge.—City will expend \$50,000 in water-works construction; reinforced concrete reservoir to be of 1,000,000 gallons capacity; 10 miles of new cast-iron main, two 150-horse-power boilers and 500 meters to be installed; date not yet set for bids. Address John H. Wood.

La., Plaquemine.—City awarded contract to Casey-Hedges Company, Chattanooga, Tenn., for water-works plant, including two 80-horse-power boilers and 50,000-gallon steel tower and tank, tower to be 90 feet high. (Lately mentioned.)

Okla., Durant.—City voted \$20,000 bond issue for extension of water-works; Southwestern Engineering Co., Oklahoma City, Okla., engineer.

Okla., Krebs.—City voted \$50,000 bond issue for construction of water-works. Address The Mayor.

Tex., Brownsville.—City will vote March 8 on issuance of \$15,000 of bonds to improve water-works. Address The Mayor.

Tex., Dallas.—Municipal Commissioners adopted final specifications for dam at White Rock reservoir site, foundations for new pumping station at west end of dam, spillway, etc.; plans by J. M. Preston, City Engineer, approved by consulting engineers, William Barclay Parsons of New York and John B. Hawley, Fort Worth, Tex.; bldgs opened February 16; dam to have clay-filled trench from end to end; before filling with clay, sheet piling of pine to be driven in bottom of trench to hard pan or white rock; earthen dam to be 2100 feet long, 42 feet high at greatest height, 211 feet wide at base and 16 feet wide at top; from top to line about half way to bottom of up-stream side to be concrete apron from end to end of dam; spillway of concrete at western end of dam to be 450 feet wide; spillway to have reinforced concrete walkway over it, and up-stream end of piers of this walk to be furnished with cast-iron guides for flashboards; drainage area of basin dam will form estimated at 114 square miles; reservoir will flood 1429 acres; capacity of reservoir, 5,785,000,000 gallons; estimated cost of improvements, including purchase of land, 15,000,000-gallon pump, three boilers and six miles of 18 and 36-inch mains, \$730,840. (Recently mentioned. See "Machinery Wanted.")

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Va., Chatham.—J. H. Whitehead's residence; loss \$4000.

Va., Fredericksburg.—William H. Peden's excisor mill; loss \$14,000.

Va., Narrows.—Narrows Lumber & Manufacturing Co.'s plant; estimated loss \$20,000.

Va., Rosslyn.—Arlington Brewing Co.'s stable; loss \$20,000.

Va., Suffolk.—Joseph G. Williams' barn; loss \$300.

Va., Warrenton.—John Hunter Selby's residence, owned by J. S. Britton.

Va., Morgantown.—Rightmire-Shriver Lumber Co.'s plant, loss \$15,000; Mrs. Augustus Haymond's residence, loss \$3000.

W. Va., Ronceverte.—Ronceverte Laundry and Ronceverte Bottling Works; loss \$8000.

WRECKED BY EXPLOSION.

Ga., Atlanta.—Georgia Railway & Electric Co.'s storage warehouse; loss \$75,000.

BUILDING NOTES

APARTMENT-HOUSES

D. C., Washington.—Walter R. Tuckerman is having plans prepared by Wood, Donn & Deming, 808 17th St. N. W., Washington, for remodeling dwelling as apartment-house and office building. (See "Bank and Office Buildings.")

D. C., Washington.—Charles W. King, Jr., 615 11th St. N. W., purchased four-story brick building and will remodel; stores on first floor and apartments above.

Ga., Atlanta.—Mutual Realty Co. has begun construction of proposed apartment-house to cost \$65,000; A. F. Walker is general manager of company and designing architect of apartment-house.

Ga., Atlanta.—A. W. Farlinger will erect apartment-house; eight stories; 60 rooms on each floor, making total of 480; reinforced concrete construction; fireproof; four electric elevators; tile roof garden; electric and refrigerating plant; cost \$200,000.

Ky., Louisville.—Weissinger-Gaulbert Company purchased site on which to erect apartment-house; nine stories; classic design; first floor for store and offices; 104 apartments; electric lighting; reported cost, \$400,000; McDonald & Dodd of Louisville will prepare plans.

Mo., St. Louis.—Mrs. J. D. Schuberg secured permit for erection of apartment house on Page Ave.; three stories; cost \$30,000.

Mo., St. Louis.—Kingsbury Realty Co. secured permit for erection of apartment house at 511 Clara Ave.; eight stories; fireproof; 48 suites; cost \$120,000.

Mo., St. Louis.—Kingsbury Realty Co. secured permit for erection of apartment-house at Clara Ave. and Kinsburg Boulevard; eight stories; 92x72 feet; 160 rooms; elevators; cost \$75,000; plans by Mariner & Le Beaume of St. Louis; contract awarded to W. L. Lester Construction Co. of St. Louis.

Mo., St. Louis.—Savoy Realty Co. has plans by H. F. Roach Syndicate, Trust Bldg., St. Louis, for two apartment-houses; five stories; gas and electric fixtures; cost \$150,000.

Mo., St. Louis.—Guggerty Realty Co. is having plans prepared by William H. McMahon, Wainwright Bldg., St. Louis, for seven apartment-houses; pressed brick and stone; composition roof; 22x32 feet; two stories; gas and electric fixtures.

Mo., St. Louis.—Amelia C. Bauer purchased site, 40x60 feet, on which to erect five and six-room apartment-house.

Okla., Oklahoma City.—R. M. Conway and Louis Rosenbaum will erect store and apartment building; three stories; pressed brick; cost \$25,000.

Okla., Oklahoma City.—J. H. Williams, Wichita, Kans., will erect apartment-house; three stories; 50x140 feet; brick and concrete; contain 18 five and six-room suites.

Okla., Tulsa.—Plans will be on file and open for bids at office of Huguenin & Sneathen, 501-502 First National Bank Bldg., January 12 for brick apartment-house.

Tenn., Memphis.—Memphis Building Co. has begun erection of proposed garage and apartment-house for F. H. Presler; skeleton concrete work started for Luna Dome Theater on site will be completed and shell of building will be of brick; 80 apartments; cost about \$30,000.

Tenn., Nashville.—H. Cohen will erect apartment-house; plans on file at Builders' Exchange.

Tex., Houston.—T. P. Converse purchased site 150x125 feet on which to erect eight-story apartment-house.

Tex., Port Arthur.—W. C. Tyrrel, Beau-

mont, Tex., will erect apartment-house; two stories; 50x140 feet; brick; sewerage; electric lights; steam heat.

W. Va., Clarksburg.—Dr. Truman E. Gore is receiving bids on erection of superstructure of store, office and apartment building. (See "Bank and Office Buildings.")

BANK AND OFFICE BUILDINGS

Ala., Opelika.—First National Bank contemplates erecting bank building.

D. C., Washington.—Horace H. Westcott of Westcott & Story, 816 17th St. N. W., is having plans prepared for two-story fireproof store and office building at 5th and E Sts. N. W.

D. C., Washington.—Walter R. Tuckerman purchased four-story dwelling at 1213 Connecticut Ave. and is having plans prepared by Wood, Donn & Deming, 808 17th St. N. W., Washington, for remodeling structure as office building and apartment-house; cost \$8000.

Ga., Claxton.—Merchants and Farmers' Bank awarded contract to G. A. Womble, Claxton, for erection of bank building recently mentioned; size 27x55 feet; semi-fireproof; cost \$3000; plans by J. DeBruyn Kops, Savannah, Ga.

Ga., Macon.—Georgia Life Insurance Co. has approved architectural designs for office building; 12 stories; front of marble; replica of State coat of arms, figure to be about 60 feet high, placed over arched entrance; safety vaults on each floor; three elevators; cost \$250,000. (Recently mentioned.)

La., Baton Rouge.—First National Bank and People's Trust and Savings Bank awarded contract to W. L. Stevens Company, New Orleans, La., to erect bank building; one story and basement; 36x80 feet; terra-cotta exterior; ornamental metal work; reinforced concrete construction; reinforced concrete burglar-proof vaults; direct steam heat; electric lighting; bronze and marble fixtures; cost \$35,000. (Recently mentioned.)

Miss., Meridian.—Citizens' National Bank, H. M. Street, president, will remodel building for banking purposes.

Miss., Meridian.—Citizens' National Bank, H. M. Street, president, will enlarge bank building.

N. C., Pineville.—Pineville Loan and Savings Bank will erect proposed bank and hall building; ordinary brick construction; 26x60 feet; two stories; cost \$3200; bids opened January 17.

Okla., Norman.—Wells-Fargo Express Co., 51 Broadway, New York, awarded contract to McCall & Co., Oklahoma City, Okla., to erect office building; brick; 25x56 feet.

Okla., Oklahoma City.—The Putnam Company, through I. M. Putnam, secured 99-year lease on site held by Southwest Mortgage Co. and will erect building from 8 to 12 stories high.

S. C., Columbia.—Equitable Real Estate Co., George L. Baker, president, will erect arcade; two stories and basement; frontage on Main St. of 53 feet, extending to depth of 208 feet, then 104 feet to Washington St., with frontage of 54 feet on that street; arcade will extend through entire building, with storerooms on each side, total of 17 on first floor and 34 offices on second floor; two fronts, of terra-cotta and marble.

S. C., Wagener.—Bank of Wagener, P. N. Gunter, president, will erect bank building.

Tenn., Nashville.—Mauran & Russell, St. Louis, Mo., prepared plans for office and theater combined; office portion will be 114 feet front and 33 feet deep; four stories; first floor used for storerooms, second for offices, third by Board of Trade and fourth by Grain Exchange; in rear will be theater with seating capacity of 2000.

Tex., Goree.—First National Bank will erect brick bank building.

Tex., Houston.—E. L. and F. L. Bender are having plans prepared by C. D. Hill & Co. of Houston for 5 or 10-story office building.

Tex., Houston.—Southern Pacific Railway, A. V. Kelllogg, engineer maintenance of way, Houston, is having plans prepared, it is reported, for office building to contain 80,000 square feet floor space.

Tex., Houston.—The Texas Company purchased site 175x200 feet on which to erect office building.

Tex., Kingsville.—Robert J. Kleberg & Co. will open bids about February 10 for erection of bank building recently mentioned; fireproof; 50x100 feet; electric lighting; cost \$20,000; plans by C. D. Hill & Co., Dallas and Houston, Tex.

Tex., San Benito.—San Benito Land & Water Co. had plans by Endress & Walsh, Austin, Tex., for two-story office building re-

cently noted; brick and stucco; fireplaces; cost \$12,500.

Va., Petersburg.—Petersburg Benevolent Mechanics' Association, Hugh R. Smith, president, contemplates erecting building for store, lodge and office purposes; seven stories; steel frame; cost \$125,000.

Va., Roanoke.—The Anchor Co. accepted plans for office building to cost \$70,000.

W. Va., Clarksburg.—Dr. Truman E. Gore is receiving bids on erection of superstructure of store, office and apartment building; four stories and basement; size 76x94 feet; steel frame for basement and first story; basement completed; press-brick front and sides; steam heat; elevators; fire escapes; ornamental-iron work; prismatic walks; store transoms; patent plaster; composition roof; floor deadening; skylights; cost \$40,000; plans by Holmboe & Lafferty, Clarksburg, W. Va.

CHURCHES

Ala., Birmingham.—Sixth Avenue Baptist Church building committee will open bids January 25 and close same March 1 for erection and completion of brick church; stone trimmings; metal shingle or tile roof; hot-air heat; rolling partitions; art glass; organ and seating included in contract. Plans and specifications may be secured from Rev. J. W. Goodgame, pastor, or at office of architects, W. A. Rayfield & Co., Mason Bldg., Birmingham; deposit of \$10 required with drawings.

Ala., Birmingham.—Trustees Twenty-first Avenue M. E. Church South will open bids about February 1 for rebuilding of burned edifice recently mentioned; 69x83 feet; pressed brick; cost \$7000; plans not yet determined. Address The Pastor, Twenty-first Avenue Methodist Church.

Ala., Prattville.—Methodist Church, Rev. W. P. Dickenson, pastor, purchased site on which to erect edifice.

Ark., Hamburg.—Presbyterian Congregation will erect brick edifice; estimated cost \$8000. Address The Pastor, Presbyterian Church.

Ga., Atlanta.—Western Heights Baptist Church, Allen C. Shuler, pastor, 51 New Port St., has plans by D. B. Grist, Atlanta, for edifice recently mentioned; 65x100 feet; fireproof construction; cost \$15,000.

Ga., Atlanta.—Second Baptist Church will erect Sunday-school building on site 75x120 feet; cost \$30,000; George S. Lowndes, chairman of committee appointed to consider plans and open bids for construction.

Ga., Atlanta.—Park Street Methodist Church, of West End, Dr. James W. Lee, pastor, has plans by Charles Edward Choate of Atlanta for edifice.

Ga., Columbus.—North Girard Tabernacle, Rev. W. L. Connor, pastor, contemplates erecting edifice; site contains 2250 square feet.

Ky., Louisville.—Peter Burghard Stone Co. of Louisville has contract for cut-stone work on proposed edifice for Fourth Avenue Baptist Church; now under construction; structure will be 100x120 feet; steam heat; plans by Gray & Hawes, Louisville; cost \$75,000; work let in detail.

La., Shreveport.—Hebrew Zion Congregation proposes to erect edifice costing \$50,000. Address The Rabbi, Hebrew Zion Church.

Md., Cambridge.—First Baptist Church, Rev. Amos Clary, pastor, will rebuild edifice reported burned.

Mo., St. Louis.—Second Church of Christ, Scientist, has plans by Mauran & Russell, Chemical Bldg., St. Louis, for edifice; two stories; 72x121 feet; gas and electric fixtures; cost \$50,000.

Miss., Meridian.—Fifteenth Avenue Baptist Church, Rev. Dr. Halley, pastor, completed plans for proposed remodeling and enlargement of edifice.

N. C., Concord.—First Baptist Church, Rev. S. N. Watson, pastor, contemplates erecting edifice.

N. C., Weldon.—Methodist Episcopal Congregation will erect brick edifice to cost \$20,000. Address The Pastor, Methodist Episcopal Church.

S. C., Rock Hill.—Winthrop College, D. B. Johnson, president, has not yet awarded contract for erection of model building recently mentioned; ordinary construction; mechanical steam coil heat; electric lighting; cost \$20,000; plans by Nathan C. Wyeth, 1517 H St. N. W., Washington; building will be 50x133 feet; fireproof construction; steam heat; electric lighting; electric elevator; cost \$125,000.

D. C., Washington.—F. R. White, 1333 G St. N. W., has completed plans for six dwellings on 16th St. N. W.; Spanish design; cost \$45,000.

Fla., Jacksonville.—Emanuel Gale, Lima, O., will erect \$15,000 residence in New River-side.

Ga., Dublin.—K. J. Hawkins will erect two-story residence.

Ga., Gainesville.—W. E. Hosch will erect by day's labor the nine-room residence recently noted; C. M. Chambers, Gainesville, to superintend construction; cost \$6000; plans by M. F. Morris, Atlanta, Ga.; hot-water or vacuum vapor heat to be installed. (See "Machinery Wanted.")

Ga., Savannah.—J. E. McMillan awarded contract to Peter Rabey, Savannah, for erection of dwelling; two stories.

Tenn., Memphis.—Lauderdale Street Presbyterian congregation purchased site 220x200 feet on which to erect edifice. Address The Pastor, Lauderdale Street Presbyterian Church.

Tex., Beaumont.—First Baptist Church, Rev. C. A. Ridley, pastor, will erect annex to edifice to cost \$20,000.

Tex., Fort Worth.—Broadway Presbyterian Church has plans by Sanguinet & Staats, First National Bank Building, Fort Worth, for edifice recently noted; 90x110 feet; ordinary construction; cost \$50,000; plumbing, heating and wiring will be let under separate contract; bids opened.

Tex., Port Arthur.—Episcopal congregation will erect edifice to cost \$10,000. Address The Pastor, Episcopal Church.

Tex., Houston.—Trinity Episcopal Church, Rev. R. E. L. Craig, pastor, will erect edifice.

Tex., San Antonio.—Mt. Zion Baptist Church, Rev. G. F. C. Curry, pastor, will erect edifice to cost \$18,000.

Tex., Wharton.—Methodist Episcopal Church South decided to erect larger edifice than originally planned, at cost of about \$14,000; concrete construction; foundation completed. Address The Pastor, Methodist Episcopal Church South. (Previously mentioned.)

Va., Portsmouth.—Calvary Baptist Church, Rev. J. W. Downey, pastor, will erect large edifice.

COURTHOUSES

Fla., Tampa.—Hillsboro County Commissioners invite bids until February 2 for remodeling interior of courthouse; plans and specifications at office of M. J. Miller, architect, American National Bank Bldg., Tampa. (See "Miscellaneous Structures.")

Okla., Purcell.—McClain county contemplates election to vote on bond issue of \$85,000 for erection of courthouse. Address County Commissioners.

Va., King George.—Proposals will be received at County Clerk's office by Board of Supervisors of King George county until January 29 for erection of courthouse according to plans and specifications by B. F. Smith, architect, Washington, D. C.; plans may be seen and estimates made thereon either in office of County Clerk at King George or in office of architect, Room 503 Pope Bldg., Washington, D. C.; proposals to be accompanied with certified check in sum of \$1000; form of proposal furnished upon application at office of architect or County Clerk; address proposals to F. C. R. Hunter, County Clerk, King George, Va.; R. M. Grymes, chairman Board of Supervisors.

DWELLINGS

Ala., Birmingham.—E. H. Levy will erect dwelling; two stories; brick veneer; cost \$8000.

Ala., Birmingham.—R. Reid, Mortimer St., is having plans prepared by W. A. Rayfield & Co., Mason Bldg., Birmingham, Ala., for bungalow of mill construction; hot-air heat; electric lighting; oak floors.

Ala., Birmingham.—B. F. Johnson is having plans prepared by W. A. Rayfield & Co., Mason Bldg., Birmingham, for brick veneered building; asbestos roof; hot-air heat; tile veranda; hardboard floors.

Ala., Gadsden.—Southern Iron & Steel Co. is planning erection of 50 dwellings for employees; W. H. Hassinger, president, Birmingham, Ala.

D. C., Washington.—American Security & Trust Co., trustee, Pennsylvania Ave. and 15th St. N. W., awarded contract to George A. Fuller Company, Munsey Bldg., Washington, for erection of residence at 2829 16th St. N. W.; four stories; brick, stone and steel; plans by Nathan C. Wyeth, 1517 H St. N. W., Washington; building will be 50x133 feet; fireproof construction; steam heat; electric lighting; electric elevator; cost \$125,000.

D. C., Washington.—F. R. White, 1333 G St. N. W., has completed plans for six dwellings on 16th St. N. W.; Spanish design; cost \$45,000.

Fla., Jacksonville.—Emanuel Gale, Lima, O., will erect \$15,000 residence in New River-side.

Ga., Dublin.—K. J. Hawkins will erect two-story residence.

Ga., Gainesville.—W. E. Hosch will erect by day's labor the nine-room residence recently noted; C. M. Chambers, Gainesville, to superintend construction; cost \$6000; plans by M. F. Morris, Atlanta, Ga.; hot-water or vacuum vapor heat to be installed. (See "Machinery Wanted.")

Ga., Savannah.—J. E. McMillan awarded contract to Peter Rabey, Savannah, for erection of dwelling; two stories.

Md., Baltimore.—Abraham J. Katz has plans by Jacob F. Gerwig, 210 East Lexington St., Baltimore, for 17 dwellings on Mulberry St.; two stories; 15x44 feet; cost \$1400 each; construction by owner.

Md., Baltimore.—Olwine & Bros., 1903 East Lafayette Ave., have plans by Jacob F. Gerwig, 210 East Lexington St., Baltimore, for nine dwellings on Presman St.; two stories; porch front; cost \$2000 each.

Md., Baltimore.—Frank Novak, 2800 Jefferson St., has plans by Jos. F. Hirt, 2800 Jefferson St., Baltimore, for 16 dwellings on Patuxent St.; two stories; brick; two 15x50 feet; the others 14x45 feet; cost \$24,000.

Md., Baltimore.—B. W. & E. Minor, 224 West Pratt St., Baltimore, have contract to erect two dwellings at Forest Park; two stories; brick and stucco; 17x51 feet.

Md., Baltimore.—John J. Watson, 763 Calvert Bldg., awarded contract for erection of 10 dwellings at Mont Alto; two and a half stories; stone foundation; frame superstructure; slate roof; cost \$50,000.

Md., Baltimore.—Harry Eckstein, 20 East Lexington St., will erect 10 dwellings on Palmer Ave.; brick; two stories; cost \$20,000.

Md., Baltimore.—Martin Meyer of Meyer & Thalheimer, 301 West Baltimore St., will receive bids until January 24 for erection of residence at Forest Park; contractors estimating include Brown & Morgan, Builders' Exchange; Edward G. Turner, 2010 Harlem Ave.; John Cowan, 106 W. Madison St.; Chas. L. Stockhausen, National Marine Bank Bldg., and General Contracting Co., 1410 Madison Ave., all of Baltimore; plans by Louis Lev, American Bldg., Baltimore.

Md., Baltimore.—Highland Land Co., 763 Calvert Bldg., has plans by Herbert C. Aiken, 223 St. Paul St., Baltimore, for four dwellings on Walbrook Ave.; two and a half stories; frame; 26x39 feet; slate roofs; hot-water heat; cost \$18,000.

Md., Baltimore.—Charles E. Litzinger, 117 Prospect Ave., Roland Park, has plans by F. E. Beall, 213 St. Paul St., Baltimore, for 12 dwellings on Huntington Ave.; two stories; 14x50 feet; slate roofs; steam heat; cost \$24,000.

Md., Baltimore.—Mrs. Wm. M. Ellicott, 106 Ridgewood road, Roland Park, purchased building at St. Paul and Madison Sts., and will expend \$15,000 to remodel for residence; will install electric lights and elevator, steam heat, and improve front with large hall entrance.

Md., Baltimore.—L. L. Chambers, 2074 Woodberry Ave., has plans by Henry J. Tinley, 314 North Charles St., Baltimore, for four dwellings on Roland Ave., between Fifth and Merriman Aves.; two stories; brick; 15x51½ feet; cost \$7,200.

Md., Baltimore.—Louis Pincus, 11 North Exeter St., will erect 20 dwellings on Baker St., between 9th and 10th Sts.; cost \$30,000.

Md., Chevy Chase.—Miss Alice Henkel, The Wilton, 1931 17th St., Washington, D. C., will open bids about February 15 for erection of proposed dwelling; two stories and attic; 34x30 feet; ordinary construction; hot-water heat; cost \$58,000; plans by E. D. Ryerson, Chevy Chase, Md.

Md., Sparks' Station (not a postoffice).—Joseph Willoughby awarded contract to Edward Watters & Co., 532 St. Paul St., Baltimore, Md., for erection of residence; frame, shingled sides and roof; cost \$10,000; plans by Coalridge & Cowell, Boston, Mass. (Recently mentioned.)

Miss., Vicksburg.—Mrs. Ella Schmidt has plans by M. J. Donovan, Vicksburg, for eight cottages; cost \$6500; contract awarded.

Miss., Vicksburg.—H. R. Austin has plans by Wm. A. Stanton, 501 First National Bank Bldg., Vicksburg, for dwelling; 55x70 feet; frame; press brick; brass work; ceramic tiling; gas and electric fixtures; one story; cost \$5500.

Mo., Kansas City.—O. V. Dodge, Jr., purchased site, 185x130 feet, and will erect residence.

Mo., St. Louis.—Edward D. Krehbiel will erect residence.

Mo., St. Louis.—Samato Realty & Building Co. will erect two dwellings; two stories; cost \$25,000.

N. C., Oxford.—Rev. F. M. Shamberger will erect dwelling.

S. C., Belton.—W. R. Hayne will erect residence.

S. C., Rock Hill.—A. T. Quantz has plans by J. S. Starr, Rock Hill, for proposed two-story dwelling; eight rooms and bath. (See "Machinery Wanted.")

S. C., Rock Hill.—John Williams has plans by J. S. Starr, Rock Hill, for proposed two-story residence; 10 rooms and bath.

Tenn., Knoxville.—W. C. Terry will erect

\$6000 residence; 37x60 feet; brick veneer; steam heat; electric lighting; plans by W. H. Gildond; contract awarded to Shanklin & Black, Knoxville.

Tenn., Nashville.—Henry Thornton will erect stone dwelling.

Tex., Eagle Lake.—E. A. Fox, San Antonio, will erect three or four dwellings; cost from \$1500 to \$2000 each.

Tex., Chapin.—John Closner will erect residence; brick construction; cost \$35,000.

Tex., Georgetown.—J. O. Stone will erect \$4000 concrete dwelling.

Tex., Houston.—Robert Marsh will erect three cottages; four rooms; cost \$1650 each.

Tex., Houston.—G. D. Samuels will erect eight dwellings; cost \$13,200.

Tex., Orange.—E. A. Bunn will erect bungalow.

Tex., San Antonio.—A. K. Ragsdale will erect residence; frame; mission style; cost \$4000; plans by W. N. Hagy, San Antonio.

Tex., Snyder.—F. J. Grayum awarded contract for erection of \$10,000 residence.

Va., Norfolk.—J. D. Anders, 23 Essex Bldg., will erect proposed \$8000 residence at Larchmont; 40x58 feet; ordinary construction; brick, first story; second story, shingles; hot-water heat; plans and construction by owner.

Va., Norfolk.—Frank Dusch awarded contract to J. D. Anders, 23 Essex Bldg., Norfolk, for erection of proposed \$4500 dwelling on Colonial Ave.; ordinary construction; 40x62 feet; brick; press-brick front; hot-water heat; plans by contractor.

Va., Norfolk.—William McLane awarded contract to A. J. Reynolds, Norfolk, for erection of frame residence; cost \$3500.

Va., Norfolk.—W. J. Simmons awarded contract to J. D. Anders, 23 Essex Bldg., Norfolk, for erection of proposed residence on Colonial Ave.; plans by contractor; ordinary construction; size, 40x62 feet; brick; press-brick front; hot-water heat; cost \$4500.

Va., Portsmouth.—Louis Mangialetto will erect 15 dwellings.

Va., Richmond.—Moses Rose will erect residence.

Va., Richmond.—Charles A. Dietrich will erect dwelling; three stories; brick.

W. Va., Bluefield.—Central Pocahontas Collieries Co. to erect 65 dwellings.

W. Va., Clarksburg.—Mrs. James Stewart, Weston Rd., is having plans prepared by Holmboe & Lafferty, Clarksburg, for \$4000 dwelling; eight rooms; frame; slate roof; lighting fixtures; porch columns; sliding doors; patent plaster; water system; day's work.

W. Va., Clarksburg.—Lloyd Duff will erect \$3200 dwelling; plans by Holmboe & Lafferty, Clarksburg; frame structure; slate roof; mantels; seven rooms; owner receiving bids; foundation completed.

GOVERNMENT AND STATE BUILDINGS

INGS

Ky., Louisville—Hospital.—Treasury Department, office of supervising architect, James Knox Taylor, Washington, D. C. Proposals will be received until February 18 for construction (including plumbing, gas-piping, heating apparatus, electric conduits and wiring) of laundry and attendants' quarters, United States Marine Hospital, in accordance with drawings and specifications, copies of which may be had from custodian at Louisville or at above office at discretion of supervising architect.

N. C., Henderson—Postoffice.—Treasury Department, office of James Knox Taylor, supervising architect, Washington, D. C. Date of opening bids for construction (including plumbing, gas-piping, heating apparatus, electric conduits and wiring) at U. S. postoffice has been extended from January 17, as lately stated, to February 18.

Okl., Fort Sill—Buildings.—Luyster & Lowe, Dayton, O., lowest bidders at \$35,000 for erection of four additional buildings, including guardhouse, quartermaster's workshop, quartermaster's storehouse, stable, guard and shop building; Capt. David L. Stone, quartermaster in charge, forwarded bids to Washington. (This company previously reported as awarded contract for 51 buildings at Fort Sill.)

Okl., Vinita—Asylum.—State Board of Public Affairs, Ray Hoffman, chairman, will receive proposals until February 2 for the erection, plumbing, heating and electric wiring of buildings Nos. 1 and 2, respectively, in accordance with the plans, specifications and details as furnished by Charles W. Dawson, architect, Muskogee, Okla., and to be erected under supervision of State Board of

Public Affairs and its supervising architect, together with terms of proposal and contract. Plans and specifications may be seen at office of Oliver Bagby, chairman, at Vinita; office of State Board of Public Affairs and of supervising architect State Board of Public Affairs at Guthrie, Okla., and of Charles W. Dawson, architect, Muskogee, Okla. All proposals shall be submitted on each building separately and in duplicate on forms furnished to actual bidders by architect for State Board of Public Affairs, and no proposal submitted other than on this form will have consideration; certified check equal to 5 per cent. of total amount of highest proposal submitted by bidder, payable to chairman State Board of Public Affairs; bidders desiring exclusive use of plans and specifications shall confer with Charles W. Dawson, architect, for terms, etc.; proposals shall be enclosed in sealed envelopes and marked "Bid for State Insane Asylum Building at Vinita, Okla." and addressed to T. A. Chandler, acting secretary, Guthrie, Okla.; P. H. Weathers, architect for State Board of Public Affairs.

Tenn., Bristol—Postoffice and Courthouse.—D. J. Phipps, Newport News, Va., is lowest bidder at \$19,900 to erect U. S. postoffice and courthouse; James Knox Taylor, Treasury Department, Washington, D. C., supervising architect. (Recently mentioned.)

HOTELS

Ala., Montgomery.—Mrs. D. P. West, owner, will remodel and erect 50 room addition to Windsor Hotel.

N. C., Asheville.—Pinless Clotheshorse Co. (R. P. Robinson and J. B. Tuttle) purchased Oaks Hotel and will remodel.

N. C., Cleveland Springs, P. O. Shelby.—John A. Darwin, owner, Athens, Ga., will rebuild Cleveland Springs hotel, recently mentioned; will probably begin construction during summer.

Okla., Collinsville.—W. B. Erwin, Ocean Park, Cal., contemplates, it is reported, erection of 40-room hotel.

Okla., Muskogee.—A. J. Levine reported to contemplate erection of hotel at Okmulgee and 6th Sts.

Tex., Penn City, P. O. Houston.—Penn City Land Co. awarded contract to William Smith, Waco, Tex., to erect hotel; two stories; frame.

Tex., Pearland.—Allison-Richey Land Co. awarded contract to Pittman & Co., 1002 Main St., Houston, for erection of \$4000 hotel; mill construction; plans by D. D. Pittman.

Tex., Waco.—W. W. Seley, owner, will enlarge and remodel Statehouse Hotel; cost \$40,000; work begun.

Va., Lynchburg.—Roanoke Hotel Co. will erect addition of 75 rooms and baths.

MISCELLANEOUS STRUCTURES

Ala., Cullman—Hall.—German Quartette Club will rebuild hall reported burned.

Ala., Huntsville—Association.—Young Men's Christian Association is planning erection of \$30,000 building.

Ark., Heber.—Morton Bros. contemplates rebuilding burned structure; 50x80 feet; plans not definite.

Ark., Heber—Store.—Hugh King contemplates rebuilding burned structure; 25x80 feet; plans not definite.

D. C., Washington.—James Sharp, C. C. Calhoun, The Roachambeau, purchased building at 11th and G Sts. N. W., and will expend between \$40,000 and \$50,000 for remodeling into business building.

Fla., Sanford—Business.—A. E. Mallum will erect business building; two stories; brick.

Fla., Starke—Jail—Bradford County Commissioners, C. L. Peck, chairman building committee, will open bids March 7 for erection of jail recently mentioned; fireproof construction; cost within \$10,000; plans by Manly Jail Works, Dalton, Ga.; plans and specifications on file at office of County Clerk.

Fla., St. Petersburg—League.—American Woman's League is planning to erect \$7300 building.

Fla., Tampa—Business.—Mrs. Wilhelmina Le Duc awarded contract to Teasley & Ridder, Tampa, for erection of business building; 25x80 feet; brick; plans by F. J. Kenward, Tampa.

Fla., Tampa—Business.—Hayden estate has plans by A. H. Johnson, Tampa, for two business buildings; one brick, 43x70 feet; front pressed brick and plate glass; steel ceilings; cost \$10,000; the other three stories; front and sides pressed brick and plate glass; steel ceilings; 100x30 feet; cost \$15,000.

Mo., St. Louis—Business.—Tutt estate awarded contract to Murch Bros. Construction Co., St. Louis, for improvements to business building; to be occupied by Lamert Furniture Co.; plans by J. L. Wees, St. Louis; cost \$72,000.

Mo., St. Louis—Business.—Company organized by Tom W. Bennett is having plans prepared by Albert B. Groves, St. Louis, for business building for Rosenthal-Sloan Machinery Co.; eight or nine stories; site 207x150 feet.

Mo., St. Louis—Hospital.—Washington University is planning to erect hospital building; site 200x175 feet; Robt. S. Brookings, chairman board of directors.

Mo., St. Louis—Business.—Philip Gamm will erect \$17,000 business building.

Fla., Tampa—Jail—Hillsboro Commissioners will receive bids until February 2 for erection of two-story addition to county jail and six steel cells, also alterations to interior of courthouse; separate estimates for each item; plans and specifications on file at office of M. J. Miller, architect, 310 American National Bank Bldg., Tampa. (Recently mentioned.)

Ga., Atlanta—Lodge.—Improved Order of Red Men increased capital stock from \$30,000 to \$66,000 to erect six-story lodge building.

Ga., Atlanta—Store.—Ward-Truitt Company organized with \$200,000 capital stock by W. A. Ward, Alf Truitt and others will erect store building; seven stories; cost, including site, \$70,000; plans by W. T. Downing, Atlanta.

Ga., Cordelia—Business.—Ryals-Baker Wholesale Co. will erect business building; 100x150 feet; brick and stone.

Ga., Dublin—Hospital.—Laurens County Hospital Association organized with E. New, president; J. L. Weddington, vice-president; Frank Bright, secretary-treasurer; planning erection of hospital.

Ga., Hawkinsville—Store.—Buff & Bennett will erect store building recently noted; ordinary construction; 35x80 feet; low-pressure steam heat; electric lighting; cost \$5,000; plans by J. L. Huggins, Hawkinsville.

Ga., Jackson—Store.—Etheridge, Smith & Co. awarded contract to Gresham Manufacturing Co., Griffin, Ga., for erection of two-story store building recently mentioned; size 75x100 feet; steam heat; electric lighting; one freight and one passenger elevator; plans by P. E. Dennis, Macon, Ga.

Ga., Jackson—Store.—Smith & Etheridge awarded contract to J. W. Gresham and J. M. Baggett, Griffin, Ga., for erection of store building; two stories; 90 feet long; pressed-brick front; steam heat; passenger and freight elevators; electric lights; plans by P. E. Dennis, Macon, Ga.

Ky., Louisville—Store and Apartment.—W. H. Norwood has plans by Fred Erhart, 400 Norton Bldg., Louisville, for store and apartment building; 2½ stories; brick; stone trimmings; metal roof; structural iron; gas and electric fixtures, etc.; cost \$30,000.

La., Monroe—Implement Store.—Wooten-Hyle Implement Co. awarded contract to Frank Masling, Monroe, at \$11,668 for erection of store building; 40x40 feet; brick; two stories and basement; electric or hydraulic elevator; plans by Clarence W. King, Shreveport, La. (See "Machinery Wanted.")

La., Monroe—Wholesale Building, etc.—Estimate of F. P. Stubbs awarded contract to Frank Masling, Monroe, La., at \$21,672 for erection of brick buildings; 40x140 and 50x140 feet; electric elevator; plans by Clarence W. King, Shreveport, La. (See "Machinery Wanted.")

La., New Orleans—Business.—Frank B. Hayne and H. de L. Vincent having plans prepared by Frank P. Gravely, New Orleans, for business building for Damerion-Person Company; six stories; steel and concrete; fireproof.

Md., Baltimore—Home.—Daughters in Israel Settlement, 117 Aspinwall St., will erect addition for dormitory to Working Girls' Home at 1290 East Baltimore St.; cost \$10,000.

Md., Baltimore—Hospital.—Mercy Hospital has plans revised by Francis E. Tormey, 444-454 Wilson Bldg., for addition; plans call for smaller building than first proposed; cost \$200,000. (Previously mentioned.)

Miss., Gulfport—Business.—Wes J. Evans awarded contract to D. J. Hale, Gulfport, for erection of business block; 100x30 feet; two stories; cost \$8500.

Mo., Gallatin—Store.—F. A. Woodruff will rebuild store building recently reported burned; 62x100 feet; ordinary brick construction; cost \$10,000; work done by day's labor.

Mo., Kansas City—Store.—Fred Wolferman Grocery Co. will erect store building to replace present structure; four or six stories.

Mo., St. Louis—Business.—Tutt estate awarded contract to Murch Bros. Construction Co., St. Louis, for improvements to business building; to be occupied by Lamert Furniture Co.; plans by J. L. Wees, St. Louis; cost \$72,000.

Mo., St. Louis—Business.—Company organized by Tom W. Bennett is having plans prepared by Albert B. Groves, St. Louis, for business building for Rosenthal-Sloan Machinery Co.; eight or nine stories; site 207x150 feet.

Mo., St. Louis—Hospital.—Washington University is planning to erect hospital building; site 200x175 feet; Robt. S. Brookings, chairman board of directors.

Mo., St. Louis—Business.—Philip Gamm will erect \$17,000 business building.

Okla., El Reno—Lodge.—Modern Woodmen of America will erect lodge building; three stories; cost \$30,000.

Okla., El Reno—Business.—M. M. Engle, Sr., and N. P. Zech awarded contract to C. P. Neely, El Reno, for erection of business block; cost \$28,000.

Okla., Muskogee—Store.—H. C. Garnett reported to erect three-story store and office building on South 3d St.

Okla., Oklahoma City—Association.—Young Men's Christian Association of Epworth University, Clyde Becker, president, is planning erection of association building on university campus; to cost \$10,000.

N. C., Charlotte—Business.—Peter Marshall Brown has plans by Louis K. Astbury, Charlotte, for erection of business building; three stories; glazed terra-cotta brick; will use side walls of adjoining buildings; cost \$4000.

Okla., Oklahoma City—Business.—M. E. Baldock will erect business building; three stories; brick; 70x50 feet.

S. C., Yorkville—Store.—S. M. McNeel will erect store building to contain four or five stories.

S. C., Union—Business.—T. E. Orr, P. O. Box 333, contemplates erection of two-story 24x120-foot business building. (See "Machinery Wanted.")

Tenn., Chattanooga—Business.—F. A. Hood will erect business building; two stories; brick; cost \$5000.

Tex., Carlsbad—Business.—W. T. Burt, Chapel Hill, Tex., will erect stone business building.

Tex., Dallas—Clubhouse.—Idelwild Club, Walter Waskom, president, is planning to erect \$20,000 clubhouse.

Tex., Dallas—Home.—Christian Church is planning to erect Old People's Home; fireproof; Rev. A. J. Bush is interested.

Tex., El Paso—Business.—D. W. Reckhart will erect business building; frontage, 163 feet, of plate glass; depth 84 feet; two stories; brick and stone; cost \$25,000; plans by Edward Kneezell, State National Bank Bldg., El Paso.

Tex., Hempstead—Lodge.—Red Men's Lodge will erect building; two stories; underground apartments; upper story for opera-house and lodge hall; cost \$7000.

Tex., Houston—Business.—March Culmore will erect business building; one story; 15x20 feet.

Tex., Rusk—Store.—W. H. Wallace will expend \$2500 to erect 26x30-foot brick store building recently noted; ordinary construction.

Tex., Rusk—Store.—J. E. Bagley will expend \$2500 to erect 23x90-foot brick store building recently noted; ordinary construction.

Tex., San Antonio—Business.—D. J. Woodward will erect business building.

Tex., Seguin—Business.—Mrs. A. B. Freeman will erect business building; two stories; brick; cost \$10,000.

Va., Holland—Business.—S. W. Holland has not selected architect to prepare plans for building recently reported burned; 40x100 feet; two stories; will install elevator. (See "Machinery Wanted.")

Va., Fredericksburg—Masonic Temple.—George Washington Memorial Association has not set date of opening bids for erection of \$39,000 building recently noted; plans by Philip N. Stern, 24 Law Bldg., Fredericksburg, not completed; three-story structure; 49x33 feet; ordinary construction; steam heat.

Va., Fredericksburg—Greenhouses.—F. T. & S. E. Covey will erect greenhouses recently noted; four buildings; 25x100 feet; cypress wood; cost \$3000; steam heat; bids opened about February 1; address S. E. Covey. (See "Machinery Wanted.")

Va., Harrisonburg—Hospital.—J. Wilton, president; J. M. Biedler, secretary; E. R. Miller, treasurer board of trustees of projectors, are planning erection of Rockingham Memorial Hospital; estimated cost \$30,000.

Va., Portsmouth—Stores.—O. L. Williams will erect 12 stores; brick; two three stories, to replace stable recently reported burned.

W. Va., Bramwell—Business.—J. C. Hunt contemplates rebuilding structure recently reported burned; two stories; brick; apartments above; plans not yet determined.

W. Va., Clarksburg—Mausoleum.—Signor Angotti is having plans prepared by Holmboe & Lafferty, Clarksburg, W. Va., for mausoleum to cost \$2500; classic style; 12x16 feet; stone, brick and concrete; wrought-iron grilles.

MUNICIPAL BUILDINGS

D. C., Washington—Engine-house.—Office Commissioners District of Columbia. Proposals will be received until January 27 for constructing engine-house No. 23 on G St. Blank form of proposal, specifications and necessary information may be obtained from chief clerk, Engineer Department, 427 District Bldg.; deposit of \$10 required to guarantee return of plans; Henry B. F. Macfarland, Henry L. West, William V. Judson, Commissioners District Columbia.

Ga., Rome—Library.—City will erect Carnegie Library to cost \$15,000. Address The Mayor.

Ga., Savannah—Market.—Market Committee, J. B. Gaudry, chairman, adopted plans by T. deBruyn Kops of Savannah for general improvement of interior of City Market; tile floors; marble-topped tables for stalls; conduit electric wiring; new system of drainage and of disposing of garbage; cost \$25,000. (Recently mentioned.)

N. C., Raleigh—Auditorium.—Municipal Building Commission, Charles E. Johnson, chairman, will invite bidders who submitted proposals recently for erection of auditorium to submit amended bids to be received not later than January 22; also alternate bids for certain changes that may be made. T. Thornton Marye, Atlanta, Ga., prepared plans. (Lately mentioned.)

Tex., Crockett—Fire-engine House.—City will erect power and engine house; has contracted with Fabric Fire Hose Co., St. Louis, Mo., for fire hose, reels, pipes, etc.

Va., Norton—City is considering voting on issuance of \$15,000 of bonds for erection of city hall. Address The Mayor.

Va., Roanoke—Buildings.—City will probably vote on issuance of \$300,000 of bonds for land and erection of public buildings. Address The Mayor.

RAILWAY STATIONS

Ga., Augusta—Augusta-Alken Railway & Electric Co., James R. League, general manager, has not selected architect or made definite plans for passenger and freight terminal recently noted; two-story brick building; 165x80 feet; ordinary construction; electric lighting; cost \$20,000; company contemplates beginning construction within 30 days; building to be completed by September.

Md., Frederick—Baltimore & Ohio Railroad, A. M. Kinsman, chief engineer, Baltimore, Md., plans to erect freight depot and remodel passenger station. (See "Railway Shops, Terminals, Roundhouses, etc.")

N. C., Laurinburg—Laurinburg & Southern Railroad, G. B. Huske, chief engineer, Laurinburg, has, it is reported, awarded contract for erection of depot.

Okla., Oklahoma City.—Chicago, Rock Island & Pacific Railway, J. B. Berry, chief engineer, Chicago, Ill.; Missouri, Kansas & Texas Railway, S. B. Fisher, consulting engineer, St. Louis, Mo.; Gulf, Colorado & Santa Fe Railway, C. F. W. Felt, chief engineer, Galveston, Tex., and St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., at a conference with Henry M. Seales, Mayor, decided to construct terminal station, including removal of all grade crossings on main lines of each railroad, viaducts, etc.; estimated cost to railroads, \$3,000,000, and to city railways, \$250,000.

Tenn., Jackson—Mobile & Ohio Railroad, C. F. Blue, superintendent of way and structures, Mobile, Ala., and Illinois Central Railroad, A. S. Baldwin, chief engineer, Chicago, Ill., has plans for remodeling and enlarging Union depot.

Okla., Preston (not a postoffice).—St. Louis & San Francisco Railroad, M. C. Byers, chief engineer, St. Louis, Mo., will not erect passenger station at Preston. (Recently incorrectly reported.)

Tex., Pastura (not a postoffice).—Kansas City, Mexico & Orient Railroad, C. H. Webster, chief engineer, Sweetwater, Tex., and Pastura Townsite Co., T. B. Clark, secretary, Stamford, Tex., contemplate erection of depot at Pastura. (See "Land Developments.")

Va., Buena Vista—Chesapeake & Ohio Railway, F. I. Cabell, engineer maintenance of way, Richmond, has plans for enlarging and improving depot.

W. Va., Bluefield—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., will, it is reported, appropriate \$15,000 for improvements to freight station.

SCHOOLS

Ala., Auburn—Alabama Polytechnic Institute has plans by Professor Curtis, architect of institute, for addition to engineering hall

to be used as mechanical and textile building; cost \$40,000; three stories; central part four stories; 50x144 feet; 20-foot extension in rear; mill construction; plastered ceiling; will open bids about February 17; will install testing machines, gas producers, steam turbines, etc.

Ga., Homerville—City voted bonds to erect \$8000 school. Address The Mayor.

Ga., Savannah—City is having plans prepared by H. W. Witcover, Savannah, for two additions to Henry-street school; four rooms each; 38x66 feet; red brick; granite trimmings; will also install new heating system; will open bids about January 28.

Ky., Barboursville—City will probably erect high school. Address The Mayor.

Ia., Covington—Parish School Board awarded contract at \$9671 to Jenkins Bros. Covington, for completion of Jefferson Ave. school; cost of entire work, \$19,000.

Ia., Eros—Trustees of school district No. 19 planning to erect \$10,000 school.

Ia., Homer—City is planning to erect \$25,000 school. Address The Mayor.

Ia., Shreveport—W. H. Werner, Shreveport, is lowest bidder at \$66,000 for school recently mentioned; three stories; brick; plans by E. F. Nield, Continental Bank Bldg., Shreveport.

N. C., Greensboro—Julius I. Foust, president, will receive bids until January 28 for erection of infirmary for North Carolina State Normal and Industrial College; certified check for \$500, payable to president; separate bids for heating and plumbing, accompanied by certified checks for \$200 for each; drawing and specifications on file at office of Julius I. Foust, at office of State Superintendent of Public Instruction, Raleigh, N. C., and at office of Hook & Rogers, architects, Charlotte, N. C. (See "Machinery Wanted.")

N. C., High Point—City will erect two schools. Address The Mayor.

Okla., Chickasha—State Board of Public Affairs will receive bids until February 3 for erection and completion of Girls' Industrial School; erected under supervision of State Board of Public Affairs and its supervising architect; plans and specifications at office of H. B. Abernathy, Chickasha; office of State Board of Public Affairs, and office of P. H. Weathers, supervising architect, State Board of Public Affairs, Guthrie, Okla., and at office of Smith & Parr, architects, McAlester, Okla.; certified check equal to 5 per cent. of total amount of highest proposal submitted by bidder, payable to Roy Hoffman, chairman State Board of Public Affairs; bidders desiring exclusive use of plans and specifications shall confer with Smith & Parr, architects, for terms, etc.; proposals shall be enclosed in sealed envelopes and marked "Bid for Girls' Industrial School at Chickasha, Okla.," and addressed to T. A. Chandler, acting secretary, Guthrie, Okla.

Tex., San Antonio—Ursuline Academy awarded contract at \$64,000 to August Feusel, San Antonio, for erection of proposed addition; three stories, basement and attic; brick with gray stone trimmings; 78x104 feet; Gothic style; auditorium 40x70 feet; seating capacity, 150 students; plans by F. Gaenslen, San Antonio.

Tex., Seminole—School Trustees accepted plans for proposed high school; eight rooms and auditorium.

Va., Fredericksburg—State Normal and Industrial College for Women awarded contract to J. C. Curtis, Newport News, Va., for erection of dormitory building; plans by Charles M. Robinson and Charles K. Bryant, both of Richmond, Va. (Previously noted.)

Va., Salem—Roanoke College has plans by Frank A. Rommel, Weightman Bldg., Philadelphia, Pa., and will construct proposed dormitory and gymnasium buildings; brick and cut stone; collegiate Gothic style; cost \$40,000.

Va., Roanoke—City will probably vote on \$100,000 bond issue for school improvements. Address The Mayor.

Va., Richmond—City has plans by C. M. Robinson, 10th and Main Sts., Richmond, for proposed Hanover Ave. school; cost \$16,000.

W. Va., Elkhorn—Elkhorn District School Board awarded contract to Witt Bros., Bramwell, W. Va., for erection of two-room school building at Elkhorn and four-room building at Powhatan; price \$16,000; brick; composition roof; hot-air heat; ventilation; plans by Holmboe & Lafferty, Clarksburg, W. Va.

W. Va., Powhatan—Elkhorn District School Board awarded contract to Witt Bros., Bramwell, W. Va., for erection of four-room school building at Powhatan. (See W. Va., Elkhorn.)

W. Va., Thomas—Board of Education, Fairfax District, is having plans prepared by Holmboe & Lafferty, Clarksburg, W. Va., for two-story-and-basement brick school building; size 64x108 feet; 11 classrooms and auditorium; two-fan system heating and ventilating; composition roof; wood plaster; maple flooring; electric wiring; gasfitting; semi-fireproof construction; cost \$25,000; bids to be opened February 1.

THEATERS

Miss., Scranton—S. Frederic has plans by and awarded contract to Ambrose Linder, Scranton, for erection of \$10,000 theater; size 50x115 feet; electric lighting; B. J. Blethen to be manager. (Recently noted under Pasagoula, Miss.)

Mo., Kansas City—Sullivan & Considine will open bids about February 15 for erection of theater previously noted; three-story structure; 80x16 feet; concrete, architectural terra-cotta, ornamental iron, marble and bronze; fireproof throughout; direct-indirect steam heat; electric lighting; cost \$95,000;

plans by Carl Boller, Gayety Theater Bldg., Kansas City.

Tenn., Nashville.—Mauran & Russell, St. Louis, Mo., prepared plans for theater and office building combined. (See "Bank and Office Buildings.")

Tex., Teague.—W. L. Johns, Temple, Tex., will, it is reported, erect opera-house.

W. Va., Charleston.—Kanawha Theater Co., recently reported incorporated, awarded contract to Moore Construction Co. of Charleston to erect theater costing \$125,000; size of structure 70x200 feet; plans by W. T. Mills, Columbus, O. (See "Machinery Wanted.")

W. Va., Shinnston.—Shinnston Opera-House Co. (recently reported incorporated by Lawrence E. Hawkins and others) has not awarded contract for erection of theater; 45x100 feet; brick; hot-air heat; composition roof; wood-fiber plaster; wood or concrete floor; cost \$10,000; plans by Holmboe & Lafferty, Clarksburg, W. Va.

WAREHOUSES

Ga., Cordele.—Rials Baker Wholesale Co. will erect warehouse; 100x150 feet; brick and stone.

La., New Orleans.—Samuel W. Weis and Joseph A. Airey plan organization of company with capital stock of \$2,000,000 to build warehouses with capacity of 500,000 bales cotton; contemplate modern system for handling and storing cotton; has option on 175-acre site with 2500-foot frontage on Mississippi River.

La., New Orleans.—Favrot & Livaudais of New Orleans are preparing plans for cotton warehouse to be erected by company.

Md., Baltimore.—Furst Bros. & Co., 211-215 West Camden St., purchased site, 40x165 feet, on Leadenhall St. for fireproof warehouse.

Mo., Kansas City.—Jones Bros. Mercantile Co. contemplates erecting warehouse.

S. C., Greenville.—J. D. Bridges and W. L. Gassaway will erect concrete warehouse.

Tex., Stamford.—Stamford Produce Co., C. H. Cox & Co., Waco, Tex., proprietors, will erect warehouse.

W. Va., Williamsport.—W. D. Byron & Sons will erect brick addition; two stories; for storage of finished leather.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—An official letter confirms the report that the Louisville & Nashville Railroad will build new shops at Boyles, near Birmingham. W. H. Courtenay is chief engineer at Louisville, Ky. Construction will probably be done by the company's forces.

Ala., Union Springs.—John W. Wright, Jr., of Union Springs is reported to have the contract to extend the Union Springs & Northern Railway for about 20 miles from Fort Davis toward Millstead, Ala., and will begin work immediately. W. M. Blount of Union Springs is president.

Ark., Lunsford.—The Manilla Southwestern Railroad, it is reported, will build an extension to Lake City, Ark. F. W. Taylor is president at Lunsford, Ark.

Ark., Rogers.—The Arkansas, Oklahoma & Western Railroad is reported sold to Eastern capitalists and J. D. Locke of St. Louis will be president and general manager. An extension is to be made to Bald Knob.

Fla., Live Oak.—The Suwannee River & White Springs Railroad, according to a report quoting an official, is now building its extension from Pine Grove to White Springs, Fla., nine miles. W. L. Tedder is president and general manager at Live Oak.

Ga., Valdosta.—The Georgia Southern & Florida Railway, according to a report, will soon begin construction on large repair shops at Valdosta. W. C. Shaw, Jr., is chief engineer at Macon, Ga.

Ga., West Point.—The Chattahoochee Valley Railway Co. says a dispatch, contemplates building an extension from Jester, Ala., to Columbus, Ga., about 18 miles. L. Lanier is president at West Point, Ga.

Ky., Cynthiana.—An official letter says that the Cynthiana & Paris Railway Co. proposes to build a line about 14 miles long from Cynthiana to Paris, Ky., via Lair, Shawhan, Brentsville and Ruckerville. Several small bridges will be required besides 1200-foot crossing of the South Licking River. Date not fixed to open bids. Robert H. Rees of Cynthiana, Ky., is engineer in charge. Others interested are R. W. Day of Scranton, Pa.; F. L. Fuller of New York city and Wade H. Lall of Cynthiana, Ky., the latter being acting secretary.

Ky., Henderson.—The Kentucky Electric Railway Co. proposes to build from Henderson to Dawson Springs, beginning construction probably in early spring. J. T. Edwards of Edwards, Roney & Co., Providence, Ky., is president.

La., Hammond.—The Hammond Lumber Co. is reported building a dummy line from Doyle, on the Baton Rouge, Hammond & Eastern Railroad, southwest through timber land, probably to reach Garyville.

La., Jeanerette.—F. M. Welch of New Iberia, La., president of the New Iberia & Northern Railroad, has, it is reported, made a proposition to extend the line to Jeanerette.

La., New Orleans.—Concerning the report quoting President J. A. Edson of the Kansas City Southern Railway about the expenditure of \$2,000,000 for improvements, an official writes that considerable work is being done both at terminals and on the line in the way of grade reduction and revision. With reference to an extension to New Orleans he says no new construction has been authorized.

Md., Baltimore.—The Northern Central Railway, it is reported, proposes to build a roundhouse and repair shops at Highlandtown, in the suburbs of Baltimore. J. H. Nichol is principal assistant engineer at Williamsport, Pa.

Md., Hancock.—The Tuscarora Railroad Co. has been chartered, according to a dispatch, to build a line about 45 miles long from near Hancock, Md., northward into coal fields in Pennsylvania. It will run between Blairs Mills, Pa., and the mouth of Licking Creek, on the Potomac River. This will be an extension, it is said, of the Tuscarora Valley Railroad, a narrow-gauge line 27 miles long from Port Royal, on the Pennsylvania Railroad, to Blairs Mills, N. H. Suloff is general manager at Port Royal, Pa. The Tuscarora Terminal Railroad Co. recently opened stock subscription books at 1109-19 Calvert Building, Baltimore, among the incorporators being E. Allan Sauerwein, Jr., Victor I. Cook and James S. Murphy.

N. C., Lumberton.—President J. F. L. Armfield of the Virginia & Carolina Southern Railroad, Fayetteville, N. C., writes that the bond election on the proposed extension from St. Paul to Elizabethtown having resulted in defeat of the bonds, the company will not build the road.

N. C., Newbern.—W. S. X. Taylor and A. E. Stevens have applied for a franchise to build a railroad from Newbern to Trenton, N. C., about 18 miles. Motor cars will be used.

N. C., Raleigh.—The Manufacturers' Record is informed that an opportunity for capital exists in a good North Carolina county to build a railroad, the line to be about 35 miles long through a thickly-settled territory, most of which has good timber and all is fine agricultural land. Address Box 216, Raleigh, N. C.

N. C., Statesville.—The proposed line of the Statesville Air Line Railway Co. is from Statesville via Yadkinville, Boonville and Dobson to Mt. Airy, N. C., 63 miles. Address Statesville, N. C.

N. C., Weldon.—The Atlantic Coast Line, it is reported, is surveying for two and one-half miles of double track from Weldon to Gaffordburg, including a steel bridge over the Roanoke River, all to cost about \$1,600,000. E. B. Pleasants is chief engineer at Wilmington, N. C. Another report says that the Coast Line and the Seaboard will jointly build a depot with two track levels. W. L. Seddon is chief engineer of the Seaboard at Portsmouth, Va.

Ola., Bartlesville.—An officer is quoted as saying that surveys have been made, right of way partly obtained and negotiations are under way to begin construction of the St. Louis, Bartlesville & Pacific Railway, which is to run from Joplin, Mo., via Bartlesville to Carmen, Okla., 25 miles. D. H. Rhodes, 213 West 4th St., Joplin, Mo., is chief engineer; F. M. Overlees, Bartlesville, Okla., is president.

Ola., El Reno.—The Commercial Club, according to a dispatch, has accepted the proposal of the Lends Construction Co. to build an interurban railway from El Reno to Anadarko and Chickasha, the city to furnish right of way for 10 miles and subscribe \$40,000 bonus. A dispatch from Chickasha says that an equal amount has been subscribed there to the Caddo Development Co. to build the line, which is being promoted by farmers. Survey made from El Reno to Anadarko.

Ola., Lawton.—Rails and ties have been received for the Lawton & Fort Sill Electric Railway Co. and construction is to begin immediately.

Ola., Shawnee.—The Shawnee Electric Railway Co. has amended its charter to in-

crease the capital from \$100,000 to \$1,300,000. The proposed line is from Muskogee via Okmulgee and Prague to Shawnee, and thence via Dale, McLoud, Harrah, Choctaw City and Spencer to Oklahoma City. The incorporators are C. T. Edwards, A. Hargraves, J. W. Rubey, J. C. Chrisney, C. E. Easterwood, R. E. Page and W. S. Pendleton.

Ola., Tulsa.—Concerning the contemplated railway from Tulsa to Muskogee, Okla., John O. Mitchell writes that no contract has been let and the matter is only under consideration.

Ola., Tulsa.—C. J. Selden, civil engineer, and C. O. A. Brown of Chicago and G. A. Studevant of New York are reported to be reviving the plan to build the projected Kansas City, Tulsa & Southwestern Railway, started several years ago by Tulsa people, including Jay Forsythe, president; G. C. Stebbins, vice-president; C. B. Lynch, secretary, and W. A. Cook, treasurer; W. H. Hendren, chief engineer. Messrs. Selden, Brown and Studevant are reported to have conferred with Vice-President Stebbins, and they are inspecting the route, which may connect Joplin, Mo.; Miami, Tulsa, Nowata, Collinsville and other points in Oklahoma, besides Paris, Tex.

Tenn., Gainesboro.—The County Clerk of Jackson county confirms the report that an issue of \$150,000 of 4 per cent. bonds has been authorized for the proposed Tennessee, Alabama & Kentucky Railroad, the issue to be made when the railroad is complete, which is expected to be in about a year.

Tenn., Knoxville.—The Knoxville, Sevierville & Eastern Railroad Co. has completed its line to Sevierville and has operated the first train. The road is 26 miles long.

Tenn., Memphis.—An officer of the Lakeview Traction Co. is reported as saying that contract has been let to C. C. Tate of Bogalusa, La., for tracklaying on 11 miles of line from Memphis to Lakeview, including 1025 feet of pile trestle-work.

Tenn., Newport.—An official letter says that nothing definite has yet been decided about the reported extension of the Tennessee & North Carolina Railroad in North Carolina.

Tex., Abilene.—The Texas & Pacific Railway Co. has been granted a permit to build a new depot at Abilene. B. S. Wathen is chief engineer at Dallas, Tex.

Tex., Bandera.—The Citizens' Club has appointed J. A. Miller, C. E. Lewis and W. J. Daverton to confer with the president of the Metropolitan Steam & Electric Railroad Co. on a proposed interurban line from Boerne via Bandera to Hondo City.

Tex., Brady.—F. G. Jonah will, it is reported, be chief engineer in charge of construction for the proposed branch of the Frisco system from Brady to Menardville, for which surveys have been made.

Tex., Dallas.—Surveys for the East Texas Traction Co.'s proposed line from Dallas to Mesquite, Forney and Terrell, Tex., 35 miles, are being made. The officers are Schuyler B. Marshall, Gaston Bldg., president; E. W. Morton, Jr., vice-president; C. L. Wakefield, 262 Live Oak St., secretary; W. H. Gaston, treasurer, all at Dallas, Tex.

Tex., Dayton.—The Trinity Valley & Northern Railroad Co. will issue \$150,000 of bonds for improvements and extensions, as well as for funding. L. Fouts is president and general manager at Dayton, Tex., and A. J. Wise is chief engineer at Houston, Tex.

Tex., Paris.—B. F. Yoakum and others, it is reported, contemplate building a railroad from Paris to Palestine, Tex., about 130 miles, and survey is reported made. His address is 71 Broadway, New York.

Tex., Pecos.—Subscriptions amounting to \$100,000 are reported for the proposed railroad from Pecos via Saragosa, Balmorhea and the Toyah Valley to the Davis Mountains, which is being promoted by W. L. Carville of Dallas, Tex. Charles W. Swenson of Toyah Valley is also said to be interested.

Tex., Provident City.—The Gulf Coast & Provident City Railway Co.'s charter has been approved and filed to build a railroad from Pecos in Wharton county, to Provident City, in Colorado county, 35 miles. The incorporators are Louis H. Scullock, Emil Reinbold, T. J. Coughlin, Edward L. Walsh, all of Kansas City, Mo.; Carey Shaw, E. W. Townes, James T. Reaves, John T. McCarthy, A. Schlafl, Houston; French Simpson, Hallettsville.

Tex., Temple.—J. W. McDaniel is reported to have submitted a proposal to build a railroad from Temple to Hamilton, Tex., for a cash bonus, right of way and subscriptions. A. F. Bentley, H. P. Robertson and others of Temple were appointed a committee.

Tex., Tioga.—An officer of the Texas & Pacific Railway says that the proposed joint depot at Tioga will be rebuilt of brick at a

cost of about \$2500. The Missouri, Kansas & Texas Railway would pay 50 per cent. of the cost.

Tex., Waco.—The Texas Central Railroad has ordered rails and will, according to a report quoting an official, begin construction not later than March 1 on the branch from Le Leon via Sipe Springs and Rising Star to Cross Plains, 40 miles. Charles Hamilton is general manager at Waco, Tex.

Tex., Wichita Falls.—Concerning the proposed railroad in which A. H. Carrigan, J. C. Tandy and others of Wichita Falls are reported interested, an official letter says that the matter is only contemplated, and the line will be either 40 or 50 miles long from Wichita Falls, Tex., to Waurika or Lawton, Okla. Either route would require a bridge about one mile long over the Red River.

Va., Abert.—W. I. Steele is reported to be working on a contract to revise the alignment of the Chesapeake & Ohio Railway at Abert.

Va., Charlottesville.—Engineers are reported to be surveying for revision of line and second track on the Chesapeake & Ohio Railway between Charlottesville and Orange, Va., about 28 miles. H. Pierce is engineer of construction at Richmond, Va.

Va., Martinsburg.—The Baltimore & Ohio Railroad and the Pennsylvania Railroad, it is reported, have agreed to build freight yards at Cumbo, two miles west of Martinsburg, where the Cumberland Valley division and the B. & O. connect. Yards will be about one mile long, and will have 12 or 15 tracks. A. M. Kinsman is chief engineer of the Baltimore & Ohio at Baltimore, Md., and G. C. Koons is engineer of the Cumberland Valley at Chambersburg, Pa. An officer of the latter says no line is to be built. An officer of the B. & O. writes that it is not intended to do anything there at present.

Va., Narrows.—An official denial is made of the press report that the New River, Holston & Western Railroad Co. will build a further extension to Bland Courthouse.

Va., Norton.—The Carolinas, Clinchfield & Ohio Railway is reported to have incorporated the Elkhorn Southern Railroad and filed map for extensions to reach coal lands in Dickenson county. M. J. Caples is vice-president, general manager and chief engineer at Johnson City, Tenn.

Va., Eccles.—The New River Collieries Co. is obtaining bids to build one mile of railroad and yards at Eccles, W. Va. L. E. Yoder is chief engineer at Eccles.

Va., Parsons.—The West Virginia, Pittsburg & Atlantic Railroad Co. has applied for a franchise in Parsons. R. F. Whitmer, president of the Dry Fork Railroad, is also president of the new line. Address, Girard Trust Bldg., Philadelphia, Pa. F. E. Mower, general manager of the Dry Fork Railroad at Hendricks, W. Va., may be able to give information.

W. Va., Princeton.—With reference to the report that the Virginian Railway has filed maps for several lines to coal fields in Dickenson county, Virginia, an officer writes that no new construction is to be done at present.

STREET RAILWAYS

Ala., Gadsden.—The Gadsden Railroad Co. was incorporated to operate a street railway; capital \$2000. Incorporators are W. M. Malone, A. B. Mitchell and J. B. Carrington.

Ala., Mobile.—The Guarantee Mortgage & Trust Co. is reported to have made arrangements to build a street railway through the property of the Bon Air estates.

Ark., Little Rock.—The Little Rock Railway & Electric Co. has applied for a franchise to build an extension.

Fla., St. Petersburg.—The Bayboro Investment Co. is reported to have made plans to immediately build a street railway from Central Ave. to Bayboro.

Ga., Atlanta.—The Georgia Railway & Electric Co. says that the contemplated improvements for 1910, to cost about \$700,000, include, among other things, the double-tracking of single-track portions of various lines and the rebuilding of car-repair shops.

N. C., Hendersonville.—C. H. Broward, superintendent of the Hendersonville Light & Power Co., is reported as saying that construction of the street railway, four and a half miles long, will begin in the spring, but contracts are not yet awarded; capital, \$125,000 authorized; bonds, \$100,000. R. M. Oates is president at Hendersonville, N. C.

N. C., Whiteville.—Official information says that the Whiteville Light & Power Co. will build a railway at present in the town of Whiteville, but it is contemplated to make a connection with the Seaboard Air Line; date not set for bids. Those interested are W. I. Carrington, J. R. Williamson and P. J.

Hufford. The latter will be engineer in charge. His address is Vineland, N. C.

Okla., Clinton.—The Clinton Street Railway Co. says a report, will build an extension. Herman Smith is president, and J. L. O'Hearn, chief engineer.

Okla., Enid.—The Enid City Railway Co. proposes to make improvements, putting down heavier rails and doing other work. Clarence Kline is superintendent.

Okla., Tulsa.—The Tulsa Street Railway Co. It is reported, will immediately begin construction of about 20 blocks of new track, as indicated by President C. H. Bosler in a recent interview.

Okla., Tulsa.—President A. A. Small of the Union Traction Co. is reported as saying that an extension will be built.

Tex., Greenville.—A. R. Nicholson, attorney-at-law, is reported working on a plan to organize a street-railway company.

Tex., Dallas.—E. L. Lancaster and associates propose to build a street railway about two miles long to the Mt. Auburn Addition.

Tex., Orange.—James E. Smith has applied for an electric street-railway franchise, the company to be called the Orange Electric Railway Co.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery and supplies wanted.

Air Compressor.—Connelly Stone Co., Littleton, W. Va., wants air compressor.

Air Washers.—Office of Commissioners of District of Columbia, Washington, D. C. Proposals will be received until January 21 for furnishing and erecting in District Building one 40,000 and two 30,000-cubic-foot-capacity air washers; blank forms of proposal and necessary information may be obtained upon application to property clerk, District of Columbia, Room 220 District Bldg.; Henry B. Macfarland, Henry L. West, William V. Judson, Commissioners, District of Columbia.

Amusement Devices.—C. C. MacKee Company, Hongkong, China, wants catalogues, prices, discounts and other data on amusement devices boxed for export, including carousels, slot machines, penny candy machines, small kinetoscope machines, with pictures (one person to a machine), etc.

Architects' Literature.—Frank K. Thompson, Masonic Temple, Raleigh, N. C., wants catalogues and other literature of interest to architects.

Artificial Limb.—M. Haley, postman, Crofton, Va., wants artificial leg.

Asphalt Blocks.—I. J. Smith & Co., 1300 Chaffin St., Richmond, Va., wants addresses of manufacturers of asphalt paving blocks.

Automatic Stokers.—Grady & Shorkey, 700 Empire Bldg., Knoxville, Tenn., wants catalogues and prices on automatic stokers.

Bag Machinery.—Statesville Cotton Mill, Statesville, N. C., wants information and prices on machinery to manufacture flour bags; also printing outfit.

Bag Machinery.—Morrison Produce & Provision Co., Statesville, N. C., wants data and prices on flour-bag machinery.

Bank Fixtures, etc.—Merchants and Planters' National Bank, Sherman, Tex., wants prices on furnishings for banking-room.

Boller Plates.—See "Steel Plates."

Boller.—See "Hoisting Engine, etc."

Boller.—S. E. Covey, Fredericksburg, Va., wants boller for greenhouse.

Boilers.—See "Engine and Boilers."

Billiard-table Supplies.—Frank Wright, Cave Springs, Ga., wants prices on billiard-table cloth, cues and balls.

Bollers.—T. A. Murrell, secretary Myers Electric Light Co., Columbia, Ky., wants prices on water-tube and other boilers; about 100 horse-power; new or second-hand.

Boiler.—M. E. McCoskey, 9 Southwestern Ave., Oklahoma City, Okla., wants prices on 20-horse-power boiler for drykiln and heating purposes.

Brick Machinery, etc.—R. J. Rhodes, Cartersville, Ga., wants to correspond with brick manufacturers relative to installing and operating machines on partnership basis.

Bridge Construction.—Duval County Commissioners, F. J. Hyde, chairman, Jacksonville, Fla., will open bids January 21 for construction of three steel and concrete bridges; plans and specifications on file in office of Gail L. Barnard, County Engineer, Room 9 Courthouse, Jacksonville, who will furnish same on application; certified check \$300.

Bridge Construction.—Board of Clay County Supervisors, L. J. Howard, clerk, West Point, Miss., will award contract February 8 for furnishing material and constructing 800 feet steel trestle on West Point and Muldrow Rd., in Tibbee bottom, according to plans and specifications on file; work to be completed by August 1; certified check, \$250.

Broom Machinery and Materials.—M. A. Ashby, Shenandoah, Va., wants prices on broom machinery and handles, wire, straw, etc.

Building Material.—W. E. Moore, Charleston, W. Va., wants prices on building supplies for \$125,000 theater.

Can.—C. G. Vardell, Red Springs, N. C., wants 12-gallon milk can.

Candy Machines (Penny).—See "Amusement Devices."

Cars.—Macon Brick Co., 353 3d St., Macon, Ga., wants clay cars for brickyard.

Cars.—Pennsylvania Equipment Co., 1209 West End Trust Bldg., Broad and South Penn Square, Philadelphia, Pa., in market for standard-gauge 40-foot flat cars of 40 tons capacity.

Cars.—Straight Creek Coal Mining Co., Cary, Ky., wants 25 bank cars.

Cots.—Geo. T. Lyndall, chairman of Committee No. 10, C. V. R., Mobile, Ala., wants quotations on 1500 to 3000 cots.

Concrete-block Machinery.—Bramwell Roofing Co., Bramwell, W. Va., wants prices on concrete-block machinery.

Cornice Machinery, etc.—Bramwell Roofing Co., Bramwell, W. Va., wants prices on tinsers' and cornice-makers' machines; hand power.

Cotton Gins.—Samuel H. Rumph, Marshallville, Ga., wants catalogues and prices on cotton-gin machinery.

Cotton-gin Machinery.—Chas. E. Fuller, Henderson, N. C., wants prices on cotton-gin machinery.

Cotton Machinery.—Arthur Baker, Stamps, Ark., wants cotton-twine and rope machinery.

Crate Machinery.—Gibbes Machinery Co., 304 West Gervais St., Columbia, S. C., wants machinery to manufacture orange and vegetable crates.

Crane, Steel Castings, etc.—Bids will be received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until January 28 for furnishing wrecking crane, steel castings, steel, iron, bronze, copper, etc. Blanks and general information relating to Circular No. 554 may be obtained at above office or office of assistant purchasing agents, 24 State St., New York; 55 National Realty Bldg., New Orleans; 1086 North Point St., San Francisco, Cal.; also from U. S. Engineer office in following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Boggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

Cranes.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., in market for two cranes; one of 30-foot span to lift six tons, three-motor, 220 volts, operated by cords from floor; prefer alternating-current three-phase 60-cycle 220-volt, but will take direct current; other crane to be not less than 50-foot span, 5 to 10 tons, for 500 volts if possible, but can use 220 volts; this crane to have cage.

Crusher, etc.—Pennsylvania Equipment Co., 1209 West End Trust Bldg., Broad and South Penn square, Philadelphia, Pa., wants crusher to reduce large chunks to two and three-inch sizes, four to five tons per hour capacity; also pebble or tube mills with silex lining.

Crusher.—Jacksboro Stone & Crusher Co.,

Jacksboro, Tex., or 115 West 6th St., Fort Worth, Tex., wants prices on second-hand No. 7½ crusher (Gates or Austin preferred).

Drying Machinery.—Chas. E. Fuller, Henderson, N. C., wants prices on steam drying machinery for tobacco.

Electrical Machinery.—M. E. McCoskey, 9 Southwestern Ave., Oklahoma City, Okla., wants prices on electric motors.

Electrical Machinery.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants belted generator, about 18 to 22 kilowatts, 220 volts, with switchboard; also 100-light dynamo and engine direct connected.

Electric Conduits and Wiring.—See "Government and State Buildings" under Ky., Louisville.

Electric-light Plant.—I. B. Miller, Mayor, Albemarle, N. C., will receive bids until February 15 for installation of electric-light plant according to plans and specifications on file in his office; J. M. Bandy, Greensboro, N. C., engineer.

Electric-light Plant.—Sabin & Morrison, Branchville, S. C., want complete equipment, about 50 lights, with small engine and all appliances for operation; direct connected preferred.

Electrical Machinery.—Merchants and Planters' National Bank, Sherman, Tex., wants prices on electrical machinery for five-story bank and office building.

Electric Wiring.—See "Government and State Buildings" under Okla., Vinita.

Elevators.—Guy P. Stubbs, Monroe, La., wants bids on 8x15 and 7x11 electric or hydraulic elevators.

Elevators.—S. W. Holland, Holland, Va., wants prices on elevators.

Elevators.—J. S. Starr, Rock Hill, S. C., wants catalogues and prices on electric elevators; freight and passenger.

Engine.—Houghs-Ives Equipment & Machinery Co., Seaboard Bank Bldg., Norfolk, Va., in market for 40-horse-power automatic steam engine; condition to be fully guaranteed; dealers' prices.

Engine.—See "Road Machinery."

Engine.—St. Clair Pipe Co., J. R. Moore, president, St. Clair, Mo., wants engine.

Engines.—T. A. Murrell, secretary Myers Electric Light Co., Columbia, Ky., wants information and prices on Corliss and other engines; new or second-hand; about 100 horse-power each; high speed; to operate alternating-current dynamo.

Engine and Boilers.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants 150-horse-power Corliss engine and 200-horse-power boiler or two 100-horse-power boilers in battery, not over 100 pounds pressure.

Engine.—See "Electrical Machinery."

Flooring.—Ivanhoe Manufacturing Co., Smithfield, N. C., wants 50,000 feet 13-16x3½-inch No. 2 or factory grade maple flooring; tongued and grooved sides and ends, hollow back and bored for nails; less than 5 percent of flooring to be less than two feet long. Give quotations, delivered, prompt shipment.

Gas Engine.—Connelly Stone Co., Littleton, W. Va., wants 100-horse-power gas engine.

Gas Engines and Producer Plants.—Richmond Forgings Corporation, W. R. Williams, manager, Richmond, Va., wants prices on gas engines and producer plants; engine to develop 25 horse-power; gas for heating and steam boiler.

Glove-cutting Machinery.—Reavis Distributing Co., Box 57, Jackson, Tenn., wants information and prices on machinery for stamping or cutting cloth gloves.

Hardwood.—John A. Bishop, Talladega Springs, Ala., wants addresses of dealers in hardwood; domestic and export.

Hardware Novelties.—J. Brantley, 290 Bagby St., Houston, Tex., wants to represent (in Louisiana and Texas) manufacturers of hardware novelties; consignment contract; Houston as distributing point.

Heating Apparatus.—See "Government and State Buildings" under Ky., Louisville.

Heating Plant.—W. E. Hosch, Gainesville, Ga., will receive prices on hot-water or vacuum-vapor heat.

Heating Plant.—Merchants and Planters' National Bank, Sherman, Tex., wants prices on steam-heating plant for five-story bank and office building.

Heating Plants.—Wild Bros. Hardware Co., Evergreen, Ala., wants several steam or hot-water heating plants for banking buildings, churches and residences.

Heating.—Julius I. Foust, president, will

receive bids until January 28 for heating and plumbing at infirmary at North Carolina State Normal and Industrial College, Greensboro, N. C.; certified checks for \$200 for each; plans and specifications on file at office of president as above, office of State Superintendent of Public Instruction, Raleigh, N. C., and Hook & Rogers, architects, Charlotte, N. C.

Heating and Plumbing.—See "Government and State Buildings" under Okla., Vinita.

Hoisting Engine, etc.—Sabin & Morrison, Branchville, S. C., wants second-hand light hoisting engine or small skidder, with boiler; about 7x10 or 8x10 cylinders.

Ice Plant.—Robinson Hardware Co., Laurel, Del., in market for 20-ton ice plant.

Iron-bed Manufacturers.—Pittman & Co., 1002 Main St., Houston, Tex., wants to correspond with makers of iron beds relative to placing order for manufacture of patented bed.

Lathe.—P. O. Box 836, Charleston, S. C., wants lathe; second-hand; state make, age, etc.

Levee Construction.—Proposals will be received at office Board of Commissioners of Red River and Bayou des Glaises Levee and Drainage District, Marksville, La., until February 1 for construction of Davids Ferry South No. 2 Levee; Red River, right bank; length of line, four miles; contents, 350,000 cubic yards; deposit, \$1000; cash or certified check to amount named as deposit to accompany each proposal; information as to location, character of work, manner of submitting proposal, execution of contract and bond, time of beginning and completion of work, as well as blank forms for submitting proposals, may be had on application to Board of State Engineers, New Orleans, La., or to Samuel W. Gardner, president, or A. E. Gremillon, secretary, Marksville.

Machine Tools.—Southern Equipment Co., 19 Young St., Houston, Tex., wants dealers' prices on bulldozer to bend ear irons; also new or second-hand iron planer, about 48x48 inches by 10 or 12 feet.

Machine Tools.—B. C. Beard, 116 East Franklin St., Salisbury, N. C., wants 20 or 22-inch hollow-spindle lathe, to swing 12 feet between centers; 20-inch double-geared shaper; 30-inch double-geared drill press; index head (Hendy & Norton preferred); 6-inch power hack saw; second-hand.

Mastic Machinery, etc.—Alabama Bitumen Co., Leo K. Steiner, president, Cullman, Ala., wants information on manufacture of mastic from bitumen; also prices on machinery, etc.

Merry-Go-Rounds.—See "Amusement Devices."

Metal Ceiling.—T. E. Orr, P. O. Box 333, Union, S. C., wants prices on metal ceiling.

Moving-picture Equipments.—See "Amusement Devices."

Oil Mills.—Samuel H. Rumph, Marshallville, Ga., wants catalogues and prices on machinery for cottonseed-oil mill.

Oil-mill Machinery.—Chas. E. Fuller, Henderson, N. C., wants prices on cottonseed-oil mill machinery.

Park Improvements.—Proposals, marked "Proposals for Construction of Athletic Field in Carroll Park," "Proposals for Work for Inner Mount Royal, Druid Hill Park," "Proposals for Furnishing Cast-Iron Electric-Light Posts and Bench Legs for Park Board," addressed to Board of Awards, Baltimore, Md., will be received at office of City Register, City Hall, until January 26 in accordance with plans and specifications of Board of Park Commissioners, which can be seen and obtained at office of board, Madison-avenue entrance to Druid Hill Park, Baltimore. With bid on construction of athletic field in Carroll Park check of bidder for \$500 to accompany each bid; check of bidder for \$500 required with bid for work at Druid Hill (Inner Mount Royal), and for \$300 with bids on light posts and bench legs. Three separate and distinct contracts, as set forth below, are comprised in this advertisement:

A—Construction of athletic field in Carroll Park, including running track, roads and paths, wading-pool, iron fencing, underground electric-lighting system and other necessary work. B—Regarding construction of catch-basins, pipe lines, construction of armored concrete and granite curbs, construction of retaining wall, electric-lighting system and resurfacing of roads in Druid Hill Park at Inner Mount Royal approach.

C—Furnishing and delivering cast-iron electric-light posts and bench legs for Park Board; William S. Manning, general superintendent.

Paper-bag Machinery.—See "Bag Machinery."

Paving.—Board of Control, Norfolk, Va.,

will open bids February 8 for regulating and repaving with some smooth material parts of Granby and Chapel Sts.; bids to be made for each street separately; specifications and other information may be obtained on application to City Engineer; certified check for 10 per cent. of amount bid; W. T. Brooke, City Engineer.

Paving.—Louisville & Nashville Railroad will receive bids until January 22 for furnishing tools and material, placing concrete base and relaying about 2700 square yards of granite paving between and on either side of rails on Commerce St., between Beauregard and Conti Sts., Mobile, Ala. Address John Rose, Assistant Superintendent, Poitcock Bldg., Mobile.

Paving.—Board of Commissioners, Galveston, Tex., will open bids January 27 for paving 25th St., requiring 11,973 square yards of vitrified-brick pavement, 152 cubic yards of extra concrete, 176 linear feet of bulkheads and 192 linear feet of curbing; part of pavement to be laid on four-inch concrete base and part on sand foundation as provided in specification prepared by City Engineer, which will be furnished upon application to his office in City Hall, Galveston; proposals to be accompanied by certified check in sum of 5 per cent. of bid; V. E. Austin, Commissioner of Streets and Public Property; A. T. Dickey, City Engineer; John D. Kelley, City Secretary.

Pearl Buttons.—J. V. McNeal, Baltimore & Ohio Bldg., Charles and Baltimore Sts., Baltimore, Md., wants addresses of manufacturers of pearl buttons; also information on duty on pearl buttons.

Pebble Mills.—See "Crusher," etc.

Piles, Pulleys, etc.—Bids will be received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until February 14 for furnishing piles, split-sheave pulleys, cold-rolled shafting, car wheels, gear cutters, valves, pipe fittings, etc.; blanks and general information relating to Circular No. 555 may be obtained at above office or office of assistant purchasing agents, 24 State St., New York; 55 National Realty Bldg., New Orleans; 1086 North Point St., San Francisco, Cal.; also from U. S. Engineer office in following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, De-falo, Cleveland, Cincinnati, St. Paul, De-nooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Boggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

Plaster and Terra-cotta.—Contractors invited to bid on plaster and terra-cotta work on Cathedral of St. John the Baptist, Savannah, Ga.; plans and specifications can be seen at office of J. de Bruyn Kops, architect, Savannah. Bids will be opened February 14; bids to be accompanied by a certified check for 200; checks of unsuccessful bidders returned; check of bidder to whom contract is awarded not returned until he has entered into contract for work with acceptable security.

Planer and Matcher.—Frank Wright, Cave Springs, Ga., wants medium-sized planer and matcher.

Plumbing and Gas-piping.—See "Government and State Buildings" under Ky., Louisville.

Plumbing.—See "Heating."

Printing Machinery.—Statesville Cotton Mill, Statesville, N. C., wants information and prices on printing machinery for flour bags.

Producer Plants.—See "Gas Engines and Producer Plants."

Punch and Shear.—Roanoke Iron Works, Roanoke, Va., wants second-hand punch and shear, 15-inch throat, to shear $\frac{3}{4} \times 4$ iron and 4×8 angles.

Pump.—F. H. Lummis Sons Company, Columbus, Ga., wants underwriters' steam or electric pump for sprinkler system.

Rails.—Sabin & Morrison, Branchville, S. C., want to lease or buy three-fourths to one mile 25 to 35-pound relay rail; Southern delivery; give terms.

Railway Yards.—New River Collieries Co., L. E. Yoder, chief engineer, Eccles, W. Va., invites bids on construction of one mile railway and yards.

Road Construction.—Board of Trustees for Putnam County Bonds, 722 Waters St., Palatka, Fla., will open bids February 5 for construction of hard-surfaced road from eastern terminus of highway bridge across St. John's River at Palatka to St. John's county line and to San Mateo; plans and specifica-

tions obtained on application to R. F. Ensey, County Engineer; S. Worden, clerk of board.

Road Construction.—Proposals, addressed to County Commissioners of Somerset County, Princess Anne, Md., endorsed "Proposals for Improving Public Highway Between Pocomoke and Dividing Creek, Known as River Road," will be received until February 1; proposals to be made on forms furnished by State Geological Survey Commission, to be obtained through its office in Baltimore; work includes grading and macadamizing of 1.02 miles of road, to be built according to plans and specifications on file at office of County Commissioners, Princess Anne; each proposal to be accompanied by certified check for \$200; L. N. Whiterock, roads engineer.

Road Machinery.—W. J. Grantham, Box 216, Raleigh, N. C., wants new or second-hand rock crusher, screen and motive power.

Road Work.—Proposals will be received at Bureau of Yards and Docks, Navy Department, Washington, until January 29 for road paving, navy-yard, Charleston, S. C.; plans and specifications can be obtained on application to bureau or to commandant of navy-yard named; William M. Smith, acting chief of bureau.

Road Work, etc.—Proposals will be received until January 26 for constructing granolithic walks at Fort Dade, Egmont, Fla.; plans and specifications, etc., furnished on receipt of deposit of \$5 certified check. Address Constructing Quartermaster.

Sawmill.—See "Woodworking Machinery."

Sawmill, etc.—Empire Manufacturing Co., A. H. Edgerton, manager, Goldsboro, N. C., is receiving bids on sawmill, planing-mill, box-mill and veneer-mill machinery.

Seating.—J. S. Starr, Rock Hill, S. C., wants catalogues and prices on church pews.

Sewer Construction.—Bob Parman, City Clerk, Oklahoma City, Okla., will open bids January 24 for construction of lateral sewers in certain portions of Putnam Heights Addition, Central Park Addition, Ross-Mann Addition, Grand View Addition, West View Heights, etc.; plans and specifications on file in office of City Clerk; each district to be bid on separately; certified check for 3 per cent. of bid.

Sewage-disposal System.—C. N. Mockler, Mayor, Mannington, W. Va., wants to correspond relative to information on establishment of city sewage-disposal plant; cost, etc.

Skylights.—T. E. Orr, P. O. Box 333, Union, S. C., wants prices on skylights.

Slot Machines.—See "Amusement Devices."

Smoke Consumers.—Grady & Shorkley, 708 Empire Bldg., Knoxville, Tenn., want information and prices on smoke-consuming equipment.

Steam Shovel.—Macon Brick Co., 353 3d St., Macon, Ga., wants second-hand steam shovel.

Steam Shovel.—Eastern Railway Supply Co., 413 American Bldg., Baltimore, Md., wants steam shovel (No. 1 Theew preferred).

Steel Beams.—T. E. Orr, P. O. Box 333, Union, S. C., wants prices on steel beams.

Steel Beams, Laths, etc.—J. S. Starr, Rock Hill, S. C., wants catalogues and prices on steel beams, reinforced steel, steel laths and slotted steel studding.

Steel Plates.—Wilmington Iron Works, foot of Orange St., Wilmington, N. C., wants steel plates rolled and drilled for marine boilers.

Stump-pulling Machinery.—Pinellas Groves, G. R. Sims, vice-president, Largo, Fla., wants information and prices on apparatus for removing stumps, small trees, etc.

Tank and Tower.—F. H. Lummis' Sons Company, Columbus, Ga., wants steel tank and tower; tank, 25,000 gallons capacity; 75-foot tower; for sprinkler system.

Terra-cotta.—Citizens' Bank of Kissimmee, Fla., W. H. Norton, cashier, wants to correspond with manufacturers of ornamental terra-cotta; wants column caps for bank building.

Tinners' Machinery.—See "Cornice Machinery, etc."

Vacuum Pans.—J. Marion Dixon, manager Dixon Saw-Palmetto Medicine Co., 215 Newnan St., Jacksonville, Fla., wants to correspond with manufacturers of vacuum pans.

Veneering Machine.—J. E. Cramer, Carrollton, Ga., wants veneering machine for making thin plank by roller process for veneer, etc.; to have capacity of sawing broad pieces from small or large timber.

Water-works.—J. B. Winslett, City Secretary, Dallas, Tex., will open bids February 16 for constructing foundation for pumping station, building dam, spillway and other appurtenances at White Rock reservoir site, in accordance with plans and specifications on file in said office; certified check \$5000; non-resi-

dent bidders, before receiving set of plans and specifications, to deposit with Mr. Winslett \$10.

Water-works Equipment.—Compressed Air Water-works Co., main office, 1157 Marbridge Bldg., Herald square, New York, wants prices on standard tanks for hot water and for air storage; tank for well (tank to be made to order); air pumps; Powell valves; piping for bringing water from springs, running streams, etc., sizes $\frac{1}{2}$, 1, $1\frac{1}{2}$ inches, etc.; bathtubs, sinks, washbasins, toilets, and all necessities for installing water-works in kitchen, bath, etc.

Wharf Construction.—Proposals will be received by Board of Commissioners of Port of New Orleans, Hugh McCloskey, president, 601-602 Hibernal Bank & Trust Co. Bldg., New Orleans, La., until January 18 for construction of A. Dumser wharf, piling and lumber for which will be furnished by board; deposit, \$1000 cash or certified check; payments, 80 per cent. monthly; plans, specifications, proposal forms, etc., on file at office

of Engineer A. C. Bell, No. 606 Hibernal Bank & Trust Co. Bldg., New Orleans, by whom full sets will be furnished on deposit of \$15.

Woodworking Machinery.—See "Sawmill, etc."

Woodworking Machinery.—D. R. Newman, R. F. D. No. 1, Blackstone, Va., wants spoke lathe (Gleason or Ohley preferred); short-log sawmill; tenon (Ohley preferred); automatic spoke throater; second-hand.

Woodworking Machinery.—See "Veneering Machine."

Woodworking Machinery.—C. C. Cocke, Crofton, Va., wants small second-hand planing, matching and molding machine.

Woodworking Machinery.—Spivey Manufacturing Co., Spivey, Tenn., wants double-surface planer.

Woodworking Machinery.—M. E. McCloskey, 9 Southwestern Ave., Oklahoma City, Okla., wants prices on window-frame machine.

INDUSTRIAL NEWS OF INTEREST

Will Establish Hardware Store.

J. H. Register & Co., Clinton, N. C., dealers in heavy and fancy groceries, announce that they have established a hardware store at Clinton.

Solar Ephemeris for 1910.

For the assistance and guidance of engineers and surveyors, the Keuffel & Esser Company, Hoboken, N. J., has published in vest-pocket form a booklet giving the solar ephemeris for 1910.

Hull Architectural & Engineering Co.

Associating with F. D. Rixse, B.S., architect, and William Oldham, C.E., H. C. Hull, architect, has organized the firm of Hull Architectural & Engineering Co., with offices at Fort Worth, Tex. This firm will design and supervise steel and reinforced concrete construction, giving particular attention to fireproof structures.

For Reinforced Concrete Building.

Pastle & Mahler, architects, 1722 Marquette Bldg., Chicago, Ill., awarded the general contract for the \$100,000 reinforced concrete Healy Building, on Woodard Ave., Detroit, Mich., to the Carey Construction Co., contracting engineer, 209-211 Lenox Bldg., Cleveland, Ohio.

The Jeffrey Screens.

Illustrating and describing the Jeffrey screens is catalogue No. 69-B, recently issued by the Jeffrey Manufacturing Co., Columbus, Ohio. This company manufactures screens of modern design and construction for various purposes, which are claimed to combine the highest screening efficiency, strength, stiffness and durability. They include revolving screens, suspended shaking screens, tipple shaking screens, etc.

F. C. Richardson, Expert Accountant.

Announcement is made of the resignation of F. C. Richardson, secretary and treasurer of the Audit Company of New York. He leaves to begin official duties with the Quincy-Manchester-Sargent Company, Mumford Molding Machine Co., Motor Parts Co., Reading Steel Casting Co., European Brake Shoe Co. and allied interests. Mr. Richardson's successor has not been named by the Audit Company, as the change does not take place until February 1.

Woolen Mill for Sale.

Manufacturers who contemplate manufacturing textile products in New England are invited to address Messrs. J. E. Conant & Co. for information regarding a plant offered for sale. The Meriden (Conn.) Woolen Co. owns the plant, which is equipped with modern machinery. An illustrated and descriptive catalogue will be furnished on application to Conant & Co., auctioneers, Lowell, Mass., who will offer the plant at public sale on January 27.

Bargains in Second-hand Equipment.

Parties desiring to purchase second-hand equipment at attractive prices are invited to correspond with the Barron & Cole Company, Barron Bldg., 127 Franklin St., New York, or its Southern sales manager, Howard Eggleston, 823 James Bldg., Chattanooga, Tenn. This company offers equipment for various purposes, all in good condition, and located at its yards near New York city. Included in this are Rand straight-line air compressors, Hornsby oil engine geared to air compressor and mounted on portable truck, platform cages with landing dogs, Oliver tunnel flat cars, steel frames, Allison dump steel

frames, Ryan & McDonald cars, drills and parts, engines and hoisters, locomotives, concrete mixers, steam shovels, etc. The company also sells Nims concrete mixers, Twentieth Century graders and snowplows, Maney four-wheel scrapers, Doud's "Acme" bottom-dump concrete buckets, "XXX" wooden buckets and pails for general purposes, Stroudsburg hoisting engines and petroleum road machinery.

Removes Its Factory and Office.

The Roberts Filter Manufacturing Co., manufacturer of water filters, announces that it has removed its office and plant from 30th and Chestnut Sts. to its new factory building, 6th St., Columbia Ave. and B. & O. R. R., Darby, Philadelphia, Pa. Among the products of this company are pressure and gravity filters for town and city supplies, sand and charcoal filters, and others for various requirements. Its central office is in the Franklin Bank Bldg., Broad and Chestnut Sts., Philadelphia, Pa.

Adopts Telephone for Dispatching.

The Gulf, Texas & Western Railway is installing telephones for train dispatching on its line between Jacksboro and Benjamin, Texas. The equipment was purchased from the Western Electric Co., manufacturer of standard Bell telephones, 463 West St., New York, and the line is constructed of No. 12 B. & S. gauge hard drawn copper. It is said that the telephone has simplified the operation of roads to such an extent that the problem of opening a new line in a hitherto undeveloped country is made much easier, especially for the operating officials.

Contest on Burroughs Machines.

A speed contest on Burroughs adding machines was recently conducted in the office of the Burroughs Adding Machine Co., First National Bank Bldg., Nashville, at which were entered 18 bank clerks. The result showed the clerks to be proficient, one of them listing 200 checks in the fast time of 3 minutes 16 $\frac{1}{4}$ seconds. The time for the second and third competitors was 3 minutes 29 $\frac{3}{4}$ seconds and 3 minutes 32 $\frac{1}{4}$ seconds, respectively. The Burroughs adding machines are manufactured by the Burroughs Adding Machine Co., Detroit, Mich., and the contest was conducted on the basis of listing 200 checks.

Monarch Metal Manufacturing Co.

For many years the Zahner Manufacturing Co. of Kansas City, Mo., has manufactured metal lath and studs, steel doors, metal frames, etc., which have been widely and favorably introduced. For years also the J. A. Ritzler Cornice & Ornament Co. of the same city has been prominent among the builders of the country. These two companies have now consolidated as the Monarch Metal Manufacturing Co., Kansas City, Mo., which will continue to manufacture metal doors, windows, frames, etc., for use in the construction of new buildings or to replace wooden construction in old ones. The products of the Monarch Metal Manufacturing Co. are briefly described and illustrated on a folder which the company is distributing.

Contracts for 37,500 Plows.

One of the largest and most important contracts for the William J. Oliver plows has been negotiated by Folsom & Tilman, McMurray, Ga., which provides for the purchase of 125 carloads of plows, approximating 37,500 in number. With reference to the contract Mr. Tilman is quoted as saying his

firm contracted for two carloads of the William J. Oliver plows last fall, but they were in such demand that it sold five carloads and determined to make more extensive arrangements for handling the product. It accordingly has secured the agency for Georgia, and is encouraged by the prospects of selling more plows than is covered by the contract. The William J. Oliver plow is manufactured by the William J. Oliver Manufacturing Co., Knoxville, Tenn.

Competition for Concrete House and Garage.

The Pittsburgh Architectural Club is offering a number of cash prizes for designs for a suburban concrete residence with a garage, using (wherever possible) concrete and cement construction. The particular object of the competition is to obtain designs for structures in which the imagination and ideas of the designer in regard to good architecture are practically and successfully worked out. The competition is open to all architects and the prizes amount to \$500, which has been donated by the Universal Portland Cement Co. of Chicago and Pittsburgh. The drawings must be delivered not later than February 16. Address Edward B. Lee, secretary Competition Committee, Pittsburgh Architectural Club, 732 Millvale Ave., Pittsburgh.

Value of Commercial Training.

In the competition for maintenance and position in the commercial world it is essential that with intelligence there should be combined a certain amount of training and association with practical business methods. To meet these requirements and for the encouragement of those whose inclinations lead to commercial activity there have been established business and commercial schools whose aim it is to impart needed information and training regarding business practices. Among the schools of this character, prominent among those of its kind and whose influence has been felt in the commercial world, is the Eaton & Bennett Business College, 9 and 11 West Baltimore St., Baltimore, Md. This school invites correspondence or personal communication with those who contemplate a business education.

An Artistic Calendar.

Remote from the path of modern civilization and progress there is a little village in Holland called Katwijk van Zee. It is a peculiarly interesting place by reason of its having retained to an unusual extent its primitive houses, costumes and customs, but of particular interest are the oddly-built boats of its inhabitants. These are pleasingly portrayed by a picture from the brush of Wilhelm Ritschel, a native of Nuremberg, Bavaria, but for many years a citizen of the United States. On a calendar which the Ashland Fire Brick Co. of Ashland, Ky., is distributing is a reproduction in colors of this picture. It presents two of the clumsy-looking boats in the background, preparatory to being drawn upon the beach, while in the foreground is the cart of a shell fisher going for a load of shells.

Toledo Electric Welder Co.

The Toledo Electric Welder Co. of Toledo has increased capital stock from \$30,000 to \$75,000 and will move to Cincinnati, where it has closed a long lease on a two-story modern brick factory building 100x60 feet. An equipment of machine tools is being installed and the plant will be in operation by February, manufacturing a complete line of electric welding machines. Neil Macneale is president and treasurer; Walter G. Franz, vice-president; Frank Warren, secretary and general manager; they, with G. W. Drach and J. A. Muir, are the directors. Messrs. Macneale, Franz and Drach are well-known Cincinnati business men. Mr. Warren, who has been connected with the Toledo Electric Welding Co. since its inception, will move to Cincinnati by the time the factory is ready for operation, and nearly all of the Toledo employees will go there at the same time.

Lackawanna Steel Co. and Subsidiaries

As indicating the improvement in industrial conditions, a comparative statement of income of the Lackawanna Steel Co., 2 Recor St., New York, and its subsidiary companies for the last six months of 1908 and 1909 is interesting. For 1909 the income from manufacturing and operating after deducting all expenses incident thereto (including ordinary repairs and maintenance of plant and interest on bonds and fixed charges of subsidiary companies) amounted to \$1,190,959.06, as against \$1,283,249.58 for 1908, while the proportion of earnings on investments in companies not controlled and of other annual income amounted to \$160,920.88 for 1909

and \$45,462.24 for 1908, making a total of \$3,271,879.94 for 1909, as against \$1,328,711.82 for 1908. Deducted from this were the sinking funds on bonds of subsidiary companies, amounting to \$378,682.10 for 1909 and \$328,615.26 for 1908; mines exhaustion funds, amounting to \$147,271.10 for 1909 and \$74,779.60 for 1908; depreciation and accruing renewals, amounting to \$663,430.51 for 1909 and \$456,003.48 for 1908, making a total deduction of \$1,183,271 for 1909 and \$855,488.34 for 1908. These deductions leave net earnings of \$2,082,487.23 for 1909, as against \$469,223.43 for 1908. From the net earnings were deducted interest for six months on Lackawanna Steel Co. bonds and notes outstanding, amounting to \$815,750 for 1909, as against \$750,000 for 1908, leaving a surplus for 1909 of \$1,238,737.23 and for 1908 of \$280,776.52. The company had unfilled orders at the close of 1909 amounting to \$467,533, and at the close of 1908 amounting to \$305,236.

Crocker-Wheeler Company's Sales.

Recent sales of the Crocker-Wheeler Company, Ampere, N. J., aggregate more than 5000 horse-power in direct-current motors, approximately 2000 kilowatts in direct-current generators and 2000 K. V. A. in alternating-current generators. Prominent among these sales is one to the Bethlehem Steel Co. of South Bethlehem, Pa., for five compound-wound interpole motors with a total output of 3000 horse-power. Two of these machines have a capacity of 1000 horse-power each at a speed of 285 R. P. M. This company has also ordered 10 of the well-known C.-W. mill motors with a combined capacity of nearly 900 horse-power. These orders will be an addition to the present equipment at the Bethlehem Steel Co.'s works of 10,000 horsepower in C.-W. motors. Another order is for one 1200 K. V. A. alternating-current generator to be used for light and power in the plant of Miami Copper Co., Globe, Ariz. This generator is to operate at 107 R. P. M. and furnish 25-cycle three-phase current at 6000 volts. Among orders for alternating-current apparatus is one for the plant of the Virginia Bridge & Iron Co. for two 200 K. V. A. 200 R. P. M. 60-cycle three-phase 230-volt synchronous motors. This company has also ordered one 50-horse-power compound-wound 230-volt direct-current motor. Other important sales are as follows: Two 2300-volt 60-cycle three-phase alternators with a combined capacity of 280 K. V. A., to the Weston Electric Light Co., Weston, Mass.; one 600 K. V. A. 600-volt 171 R. P. M. three-phase alternator, for the Landes, Frary & Clark Co., New Britain, Conn.; a 1500 K. V. A. generator is at present being constructed for this company; 16 500-volt direct-current motors, with a total of 197 horse-power, and one 90-kilowatt generator, to E. D. Jones & Sons Company, Pittsfield, Mass., and others.

TRADE LITERATURE.

Placing Concrete in Freezing Weather

In a folder entitled "Things Worth Knowing About Concrete," which will be published regularly by the Vulcanite Portland Cement Co., Land Title Bldg., Philadelphia, Pa., some concise information is given regarding the placing of concrete in freezing weather.

Cotton Chats.

Cotton Chats, No. 88, for December, 1909, has been issued by the Draper Co., Hopedale, Mass. This publication shows a view of the company's local exhibition room, containing warpers, spoolers, twistlers, etc., which it manufactures, and makes reference to the company's 1910 calendar, which presents a view in colors of its plant.

Diversified Use of Cement.

The January bulletin of the Universal Portland Cement Co. of Chicago and Pittsburgh contains many interesting illustrations of different structures in which its Portland cement has been used. To users of cement generally this monthly bulletin is found of much assistance, as it contains, in addition to the illustrations, reading matter that is of especial interest to cement users.

The N. Stafford Company Catalogue.

Among pioneers in the manufacture of time, trade and tool checks is the N. Stafford Company, 67 Fulton St., New York. This company manufactures these checks in brass, aluminum, bronze, german silver, etc., together with badges, burning brands, stencils, rules and metal stamps. It also manufactures high-grade metal signs for financial and other institutions in raised or sunk letter in brass, bronze or silver-plated, and gold, glass bronze, brass or aluminum letters or figures for windows, doors and other

purposes. The company is distributing an attractive catalogue which illustrates and describes its products.

Sturtevant Fuel Economizers and Air Heaters.

Catalogue No. 150 of the Sturtevant engineering series, illustrating and describing the Sturtevant fuel economizers and air heaters, has been issued by the B. F. Sturtevant Company, general office and plant, Hyde Park, Mass. The Sturtevant new high-pressure type fuel economizer has all joints metal to metal, and is claimed to stand working pressure up to 300 pounds per square inch, doing away with the use of gasket joints and eliminating the chance of leakage. It is claimed also that with the use of the Sturtevant positive scraper mechanism with which it is equipped the scrapers cannot stick, thus eliminating one of the difficulties found in earlier designs of economizers. The Sturtevant air heaters are used for plants doing special drying, baking and tempering work in textile mills, hospitals, heating buildings, and for all purposes where a large volume of hot air is desired.

"The Wages of Faith."

Embracing an argument for the professional regard of engineering contracting, together with some deductions from correspondence with a number of engineers and employers of contractors regarding forms of construction contracts, the Stone & Webster Engineering Corporation, Stone & Webster Bldg., Boston, Mass., has issued a pamphlet entitled "The Wages of Faith." In the treatment of its subject the publication refers to the force of faith and other essentials in the execution of construction contracts, presenting evidence that theoretically the "cost-plus" method is the best way to do construction, but owing to the necessity of dealing with unknown or questionable contractors it is in most cases impracticable. It concludes by stating in the case of large works owners and engineers are coming more and more into the method of dealing only with contractors of known capacity and reliability, putting such dealings on a basis which insures thorough co-operation and co-ordination of effort.

An Interesting Catalogue and Price List.

All improvements are developed from new ideas. Whether it be a plan of organization or combination, a new system of production, a scientific discovery applied to some industry, a labor-saving machine which enables one man to do the work of many, or some efficient device that does something more quickly, more conveniently or more securely than it has been done before, or that produces an article of a more attractive and therefore more salable appearance, it is a new idea. A company which has given much attention to developing new ideas, whether patented or not, is the Niagara Falls Metal Stamping Works, Niagara Falls, N. Y. This company does not purchase patents or manufacture goods on royalty, but manufactures specialties for others on orders, and is often of assistance to its customers in selling their goods and sometimes in selling their patents. The Niagara Falls Metal Stamping Works manufactures a complete line of hardware specialties, and has recently issued a catalogue and price-list which illustrates and describes them.

MISSISSIPPI VALLEY DRAINAGE.

Mr. George A. Cole's Comments on Mr. B. F. Yoakum's Suggestions.

Mr. George A. Cole of Fayetteville, president of the Farmers' Union of Arkansas and president of the State Fair, has written as follows to Mr. B. F. Yoakum in reply to the latter's recent letter concerning drainage in the State of Arkansas and other swamp lands of the Mississippi Valley:

"Since we discussed this subject I have given the matter close and careful attention. Prior to this, as an agriculturist I had made a study of the soils of Arkansas, not only as to their actual values, but as to their comparative merits. I am writing strictly within the actual conditions when I assert that no State of the Mississippi Valley offers greater opportunities to the small farmer than does the State of Arkansas. This being the case, it is somewhat startling to think that the population of Arkansas is only 24 persons to the square mile, while in Iowa we find 40, in Indiana

61, in Kentucky 50, in Illinois 86 and in Ohio 104. Of course, Ohio has a number of very large cities on the great highways across the continent which considerably raises the per capita per acre, but even so, the difference was somewhat astonishing to me.

"It is probably true that half a century or more ago there was almost as much swamp land in Illinois and Indiana as we have in the lower Mississippi Valley, and I am quite sure there was more fever and ague in those pioneer days than in any section of the country. Now, where there were swamps covered by green scum, they have rich and prosperous farms, ranging in value from \$75 to \$200 per acre.

"What was done for Indiana and Illinois can be done for the wet lands of Arkansas. There is this difference to be considered: In the States I have referred to it was largely a ditching proposition. If you will recall, first they began with open ditches, then with wooden drains, then with tile drains, but it is only of comparatively recent date that they have constructed great trunk-line ditches, but the work was carried on for small farms without a great deal of co-operation until later, except to give them an outlet for tiling.

"On account of the conditions in Arkansas it is almost necessary to have a comprehensive scheme. In a recent report issued by the Drainage Bureau at Washington the following observation was made concerning one of the Arkansas drainage projects:

"It is believed that by following this plan, which will be developed more fully in the completed report, the systematic and orderly reclamation of this district will be possible, making it one of the best examples in this country of the successful drainage of a large area at a moderate cost. It remains with the people of this district to determine whether this shall be done, or whether, by conflicting and unrelated efforts at detail drainage, the cost of the work will be very greatly increased, the desired result only partially secured, the drainage of the territory as a whole indefinitely delayed, and perhaps a large part of the land rendered finally impossible of drainage."

"This engineer means that it is necessary to have a comprehensive plan for extensive tracts in Arkansas in order to get the best results. In other words, we must have co-operation of the State and Federal authorities and the enthusiastic support of the private owners. Without this the reclamation of these rich but submerged lands will be extremely slow. With this co-operation the redemption will be very rapid, and as you say, the land which is drained one year will be bearing crops the next. Furthermore, it is not necessary to wait until the whole project is complete before part of the lands are productive.

"While it is a little bit out of my scope, I am very much interested in what you say about the availability of these lands to the great markets of the Mississippi Valley. As an agriculturist I can say with confidence that there exists in this country no richer lands for raising food products for the kitchen, and, as you point, these lands are close to the great consuming centers.

"The money which will be expended in saving these lands will not only increase the prosperity of the State of Arkansas, enrich the farmers who will settle on these lands, but increased production will be of material advantage to the country where the production of foodstuff is not keeping pace with consumption. The population of the country is increasing in a geometrical ratio, while the production is in an arithmetical ratio. If the census of 1910

[January 20, 1910.]

shows a population of 90,000,000 in the United States, a quarter of a century later there will be twice as many inhabitants in this country. Unless we seek to bring every possible acre under cultivation the time is not far distant when we will be importing instead of exporting foodstuffs.

"In order to do the work in Arkansas effectively there must be co-operation on the part of all the people, whether landholders or not, living in the various drainage districts. Not only that, but of all the people and landed interest in Eastern and Southern Arkansas. Further, we must have the co-operation of the State and Federal Government. The Federal Government should furnish the means for deepening and opening up the natural waterways in this section to be drained, at least that part of them over which the Government exercises control.

"Your presentation of this matter so strongly impresses me with the great importance and feasibility of the work that I intend at an early date to bring this matter to the attention of the agricultural and commercial interests of Arkansas, to the end that speedy and concerted action may be taken to avail the State of Arkansas of the great increase in wealth, health and population which the accomplishment of this work would insure.

"It will be a pleasure to hear from you further if you can give us any suggestions which will help us in our work, knowing you to be deeply interested in the development of the Southwest, as shown by your action in other public-spirited matters."

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters. Items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD.

Baltimore, Md., January 19.

The Baltimore stock market during the past week inclined to dullness. In the trading United Railways common, trust certificates, sold at 14; do, income bonds, 60 1/2 to 59 1/2; do, funding 5s., 84 1/2 to 83 1/2; do, do, scrip, 84 1/2 to 83 1/2; United 4s., 86 1/2 to 86 1/2; Consolidated Gas, Electric Light & Power, 49; do, preferred, 85 1/2; do, 41 1/2s., 85; Consolidated Gas 6s., 100 1/2; do, 41 1/2s., 95; Seaboard Company common, 25 1/2 to 26 1/2; do, do, second preferred, 45 1/2 to 45; Seaboard 4s., stamped, 84 1/2 to 84; do, three-year 5s., 99 1/2; do, 10-year 5s., 99 1/2 to 99 1/2; Mt. Vernon-Woodberry Cotton Duck 5s., 75 1/2 to 75 1/2.

Bank stocks sold as follows: "Citizens", 39; "Mechanics", 27 1/2; Exchange, 155; Marine, 42; "Merchants", 175.

Baltimore Trust sold at 304 to 302 1/2; International Trust, 138 to 140; Fidelity & Deposit, 151 to 155; Maryland Casualty, 127 to 126, including stock dividend: American Bonding, 80 to 80 1/2.

Other securities were traded in thus: Northern Central Railway stock, 116 1/2 to 122; Consolidation Coal, 117 to 115; Atlantic Coast Line Consolidated 4s., 94 1/2 to 94 1/2; do, new 4s., certificates, 103 to 100 1/2; Maryland Electric 5s., 97 1/2 to 97 1/2; Houston Oil common, 8 to 7 1/2; do, preferred, 40; Baltimore City Passenger 5s., 100 1/2; Fairmont & Clarksburg Traction 5s., 96 to 96 1/2; Macon, Dublin & Savannah 5s., 97; Norfolk Railway & Light 5s., 99 1/2 to 99 1/2; Western North Carolina 6s., 106; George's Creek Coal & Iron, 122 1/2; Anacostia & Potomac 5s., 103 1/2 to 103; Northern Central 5s., A, 112; North Carolina 6s., 115 1/2 to 115 1/2; Richmond & Danville debenture 5s., 106 1/2; Virginia Midland 2d, 101; do, 5th, 107; Alabama Consolidated Coal & Iron preferred, 65; Augusta Railway & Electric 5s., 102; Atlantic Coast Line convertible debenture 4s., 100% to 100; Georgia, Carolina & Northern 5s., 105 1/2; Baltimore Traction (North Baltimore Division) 5s., 113; Baltimore Electric 5s., stamped, 90 1/2 to 91; City & Suburban (Washington) 5s., 104; Maryland & Pennsylvania incomes, 64; West Virginia Central 6s., 101 1/2; Baltimore City 3 1/2s., 1980, 92 to 92 1/2; Geor-

gia & Alabama Consolidated 5s., 104 1/2; Atlantic Coast Line of Connecticut 5-20s., 93; Memphis Street Railway 5s., 100; Baltimore City 3 1/2s., 1928, 97; do, do, 1940, 97; Western Maryland Railroad stock (New York basis), 52; Georgia Southern & Florida 5s., 108 to 108 1/2; United States 4s., 1925, registered, 115 1/2; Atlantic Coast Line of Connecticut stock, 335.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended January 19, 1910.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte	100	190	190
Atlantic Coast	100	131 1/2	131 1/2
Atlantic Coast of Conn.	100	334	340
Georgia Sou. & Fla.	100	30	25
Georgia Sou. & Fla. 1st Pfd.	100	97	97
Norfolk Railway & Light	25	21	23
Seaboard Company Common	100	25 1/2	26 1/2
Seaboard Company 1st Pfd.	100	45	46 1/2
United Ry. & Elec. Co.	50	14	14
Western Maryland	100	52	52 1/4

Bank Stocks.

Citizens' National Bank	10	39	39 1/2
Com. & Far. White Ctrfs.	100	80	80
Drovers & Mech. Nat. Bank	100	218	218
Farmers & Mgr. Nat. Bank	40	59	59
Maryland National Bank	20	20 1/2	20 1/2
Merchants' National Bank	100	173	179
National Bank of Baltimore	100	120	120
National Bank of Commerce	15	30	31
National Exchange Bank	100	155	155
National Marine Bank	30	40 1/2	40 1/2
National Mechanics' Bank	30	27	28
National Union Bank of Md.	100	129	122
Second National Bank	100	185	185
Western National Bank	20	35	38 1/2

Trust, Fidelity and Casualty Stocks.

American Bonding Co.	25	80	81
Baltimore Trust & Guarantee	100	303	303
Colonial Trust	50	261 1/2	27
Continental Trust	100	216	217 1/2
Fidelity & Deposit	50	154	154
International Trust	100	139	141 1/2
Maryland Casualty	25	95	97
Mercantile Trust & Deposit	50	153	153
U. S. Fidelity & Guaranty	100	140	140

Miscellaneous Stocks.

Ala. Con. Coal & Iron	100	25	25
Ala. Con. Coal & Iron Pfd.	100	65	75
Con. Cotton Duck Common	50	77	77
Con. Cotton Duck Pfd.	50	24 1/2	24 1/2
Con. Gas. Elec. Lt. & P. Com.	100	49	51 1/2
Consolidation Coal	100	114 1/2	116 1/2
G. B. S. Brewing Co.	100	1 1/2	2 1/2
Georges Creek Coal	100	129	122 1/2
Mer. & Miners' Trans. Co.	100	90	90

Railroad Bonds.

Atlantic Coast Line 1st 48s., 1892	93 1/2	95
Atlantic Coast Line 4s., 1918	101	101 1/2
At. Coast Line Com. 4s., 5-20s.	92 1/2	93 1/4
Atlan. Coast Line (Conn.) 4s., 1918	105	105
Balto. & Harrisburg 5s., 1936	108 1/2	108 1/2
Balto. & Harrisburg Ext. 5s., 1938	105	105 1/2
Carolina Central 4s., 1949	92	92 1/4
Coal & Coke Railway 5s.	96	96
Con. & Iron Railway 5s., 1920	101	102
Con. & Green 1st 6s., 1916	101	102
Florida Southern 4s., 1940	94 1/2	96
Georgia & Alabama 5s., 1942	104 1/2	104 1/2
Georgia, C. & N. 1st 5s., 1929	105	105 1/2
Georgia Pacific 1st 5s., 1922	113	116 1/2
Georgia South. & Fla. 1st 5s., 1945	107	108 1/2
Maryland & Penna. 4s., 1951	90	90
Macon, Dublin & Savannah 5s.	97	97 1/2
Petersburg Class A 5s., 1926	110	110
Potomac Valley 1st 5s., 1941	105	105
Raleigh & Augusta 1st 6s., 1926	117	118 1/2
Richmond & Danville Deb. 5s.	106 1/2	107
Seaboard Air Line 4s., 1950	80 1/2	80 1/2
Seaboard 4s., Stamped	8 1/2	8 1/2
Seaboard Air Line 5s., 1940	98	100
Seaboard Air Line 5s., 3-year	99 1/2	100
Seaboard & Roanoke 5s., 1926	105	106 1/2
South Bound 5s., 1941	106 1/2	106 1/2
Virginia Midland 2d 6s., 1911	101	101 1/4
Virginia Midland 5th 5s., 1926	106 1/2	106 1/2
Western N. C. Con. 6s., 1914	106	106 1/2
West Va. Cent. 1st 6s., 1911	101	101 1/2
WIL. Col. & Aug. 6s., 1910	100	100
Wilmington & Weldon Gold 5s., 1935	112	113 1/4

Street Railway Bonds.

Anacostia & Potomac 5s., 1949	102 1/2	102 1/2
Atlanta Con. St. Ry. 5s.	105	105
Balto. City Pass. 5s., 1911	100 1/2	100 1/2
Balto. Sp. P. & C. 4 1/2s.	92 1/2	94 1/2
Balto. Trac. 1st 5s., 1929	108 1/2	111
Balto. Trac. (N. Y. Div.) 5s., 1942	101	113 1/2
Charleston Con. Elec. 5s., 1939	90	90
City & Suburban 5s. (Balto.), 1922	105 1/2	107
Lexington Railwy 1st 5s., 1949	103	104 1/2
Macon Ry. & Lt. 1st Con. 5s., 1953	91	92
Maryland Electric Railways 5s.	97 1/2	97 1/2
Memphis Street Railway 5s.	99 1/2	100
Metropolitan 5s. (Wash.), 1925	108 1/2	108 1/2
Newport News & Old 1st 5s., 1938	93	95
Norfolk & Portsmouth Trac. 5s.	81	83
Norfolk Railway & Light 5s.	99 1/2	100
United Railways 1st 48s., 1949	86	86 1/2
United Railways Income 4s., 1949	59 1/2	60
United Railways Funding 5s.	83 1/2	83 1/2
Ala. Con. Coal & Iron 5s.	85	85
Baltimore City 5s.	90 1/2	91
Consolidated Gas 6s., 1910	100%	100%
Consolidated Gas 5s., 1939	110	110 1/2
Consolidated Gas 4 1/2s.	95 1/2	95 1/2
Consolidation Coal Ref. 4 1/2s.	94 1/2	94 1/2
Con. Gas. Elec. Lt. & P. 4 1/2s.	84	85
Fairmont Coal 1st 5s.	96 1/2	97 1/4
G. B. S. Brewing 1st 48s.	41 1/2	41 1/2
G. B. S. Brewing Income 4s.	10	12
Maryland Steel Co. 5s.	102 1/2	102 1/2
Mt. Vernon-Woodbury Cot. Duck 5s.	75 1/2	76
United Elec. Lt. & P. 4 1/2s.	92 1/2	92 1/2

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending January 17.	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	85	85
Aiken Mfg. Co. (S. C.)	85	85
American Spinning Co. (S. C.)	100	100

Arcadia Mills (S. C.) 95

Arkwright Cotton Mills (S. C.) 100 105

Augusta Factory (Ga.) 65 70

Avondale Mills (Ala.) 116

Bolton Mills (S. C.) 120

Brogan Mills (S. C.) 90 110

Cannon Mfg. Co. (N. C.) 125

Cabarrus Cotton Mills (N. C.) 130 135

Chiquita Mfg. Co. (S. C.) 160 164

Clifton Mfg. Co. (S. C.) 105

Clinton Cotton Mills (S. C.) 118 125

Columbus Mfg. Co. (Ga.) 93 98

Courtney Mfg. Co. (S. C.) 96

Dallas Mfg. Co. (Aa.) 99

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100,000 7 per cent. Preferred Stock.
100,000 of Common Stock.
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Also 100,000 first mortgage real estate loans.
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W. M. INGLE, Vice-President and Cashier.
J. C. WANDS, Asst. Cashier.
JOHN B. H. DUNN, Asst. Cashier.
Capital, \$1,500,000
Surplus and Profits, \$900,000
Deposits \$12,000,000

Accounts of Banks, Bankers, Corporations and Individuals solicited. We invite correspondence.

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CROSS CREEK COAL COMPANY 6% Gold bonds, total issue \$250,000. All have been disposed of to investors and bankers in different parts of the country, including Saco, Maine; Boston, Mass.; Rochester, N. Y.; Westfield, Olean, Fredonia and Buffalo, N. Y.; Franklin, Coudersport, Pittsburgh, Smethport, Shamokin and Port Allegany, Pa.; Columbus, Dayton and Springfield, Ohio; Northfork, Welch and Bluefield, W. Va.; Roanoke, Va.; Nashville, Knoxville, Jasper, Chattanooga and South Pittsburg, Tenn.; Atlanta, Ga.; Lowell, Mass.; East Orange, N. J., and Washington, D. C., until now there are but \$30,000 of them left. These bonds are first lien on 7000 acres of the best coal properties in Tennessee, and \$75,000 of this money is being spent on an up-to-date coal works with a capacity of about 1000 tons a day. Particulars will be furnished from the office, 1006 Mutual Life Building, Buffalo, N. Y. P. S.—A bonus of preferred stock will be given with the bonds.

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Room 315 James Building
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Municipal and Corporation
Cotton Mill Stock a Specialty

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Surplus, \$2,100,000

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OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.

Capital, \$1,000,000

July 15, 1909, Surplus and Profits, \$671,631.60

OFFICERS:

WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
WM. J. DELCHER, Asst. Cashier.
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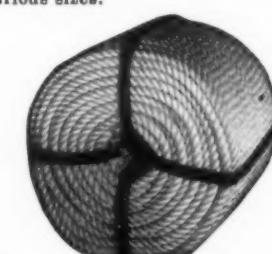
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"AMERICAN" ROPE is most economical because it gives the longest service and the greatest value for the money invested.
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MANILA - SISAL - JUTE CORDAGE
65 WALL STREET

TRANSMISSION ROPE

MANUFACTURERS' RECORD.

Ings Bank & Trust Co., it is reported, expects to begin business about February 1 with R. S. Montgomery, president; B. L. Hurdle, vice-president; Scott Fillman, cashier.

Okla., Allibon.—The First State Bank of Allibon is reported chartered with \$15,000 capital; directors, John T. Bally and E. M. Bally of Allibon, Leora Johnson of Iowa City, Iowa; Myra E. Call of Cedar Falls, Iowa; Leonia Call of Webster City, Iowa; Fred E. Smith and C. Oliver of Chelsea.

Okla., Oklahoma City.—The Oklahoma City Securities Co. has been chartered with \$100,000 capital; directors, Abner Davis, Nick M. Ellis, J. M. Postelle, Henry M. Scales and B. E. Day.

Okla., Ochelata.—Official: Oklahoma State Bank of Ochelata organized with \$15,000 capital stock by G. D. Davis, E. G. Bayless and W. F. Hays of Claremore, Okla.; William Jones of Bristow and D. Kornig of Tulsa.

Okla., Shawnee.—The Shawnee Life Insurance Co. is reported chartered with \$1,000,000 capital; directors, John H. Bossler, Thomas J. Greene, A. M. Widdows, W. N. Robberson and Albert Zange.

S. C., Barnwell.—The Home Bank of Barnwell recently chartered with \$30,000 capital, has organized with officers thus: President, Harry D. Calhoun; vice-president, W. L. Cave; cashier, H. P. Dew; assistant cashier, N. G. W. Walker; attorney, G. M. Greene; directors, N. L. Cave, G. M. Greene, T. S. Cave, H. P. Dew, Harry D. Calhoun, Dr. T. F. Hogg, W. T. Walker, T. J. Grubbs and J. J. Cochran.

S. C., Columbia.—Official: The People's Industrial Trust Co. Incorporated; capital \$5000; W. P. Cooper, president; D. E. Ballentine, vice-president, and Chas. W. Cromer, secretary.

S. C., Darlington.—Reported that a bank is to be established by Henry M. Smith.

S. C., Enoree.—Reported that the Bank of Enoree, capital \$50,000, has been granted a commission; petitioners, W. J. Fleming, J. N. Bryson and B. H. Bryson.

S. C., Florence.—The People's Savings Bank & Trust Co., capital \$25,000, has been granted a commission; incorporators, J. W. McCown, S. H. Saunders, B. G. Gregg, B. Rutledge, J. F. Stackley and Julian C. Rogers.

S. C., Greenwood.—The People's Bank of Greenwood, capital \$100,000, has been granted a commission; petitioners, O. D. Duckett and B. F. McKellar.

S. C., Woodruff.—The Woodruff Building and Loan Association, capital \$50,000, has organized with S. D. Parson, president; W. F. Burgess, vice-president, and L. D. Fowler, secretary and treasurer.

Tenn., Cookeville.—The First National Bank of Cookeville has been approved; capital \$50,000; organizers, J. T. Anderson, J. R. Tubb, O. H. Anderson, J. H. Anderson and C. M. Anderson.

Tenn., Mason Hall.—Official: The Mason Hall Bank chartered and incorporated; capital \$25,000; surplus \$7500; A. T. Thompson, president; J. H. Smith, vice-president, and W. A. Thompson, cashier; directors, A. T. Thompson, M. Domeer, Sam Shatz and P. N. Matlock.

Tenn., Wartrace.—Official: The First National Bank, capital \$25,000, organized with J. E. Shoffner, president; H. A. Clark, vice-president; W. H. Hooser, cashier, and Clyde Shoffner, assistant cashier.

Tenn., Waverly.—The Merchants and Farmers' Bank is reported to have begun business; capital \$25,000; J. E. Pullen, cashier; W. A. Daniel, president; vice-presidents, I. T. Crockett of Hurricane Mills and John B. Stribling of Waverly.

Tex., Adrian.—The First State Bank of Adrian has filed application for a charter; capital \$10,000; incorporators, Henry Wiggins, C. L. Young, C. Glasscock and others.

Tex., Alba.—Official: The First State Bank of Alba incorporated; capital \$10,000; Will Cravet, president; R. A. Farrington, vice-president, and T. M. Reneau, cashier.

Tex., Aransas Pass.—The First State Bank, capital \$10,000, is reported to have begun business with directors thus: A. H. Danforth, president; H. Brook, vice-president; J. J. Todd, cashier; E. O. Burton of San Antonio and C. W. Holmes of Peoria, Ill.

Tex., Caddo Mills.—The First National Bank of Caddo Mills has been authorized to begin business; capital \$25,000; George L. Vancleve, president; W. C. Welch and L. T. Johnston, vice-presidents; M. L. Johnson, cashier.

Tex., Denton.—The Bankers and Citizens' Co-operative Life Insurance Co. of Denton has, it is reported, filed its charter. The directors are Robert H. Hopkins, Jr., Dr. J. P. Blount, B. H. Deavenport, J. W. Cook, Dr. M. L. Martin, W. C. Edwards, W. D.

Birdsong, C. A. Smith, all of Denton, and W. W. Birdsong of Fort Worth.

Tex., Eagle Lake.—The Garwood State Bank is reported to have made application for a charter; capital \$10,000. The officers are: J. J. Pluchbach, president; W. S. Griffith, vice-president; J. L. Chapman, cashier; directors, J. J. Pluchbach, W. S. Griffith, W. M. Griffith, Ed R. Franka, J. F. Franka and M. E. Gwynn.

Tex., El Paso.—R. M. Turner, L. H. Crews and A. T. Kerr contemplate, it is reported, opening a new bank.

Tex., El Paso.—The Rio Grande Mortgage Co. is reported incorporated with \$300,000 capital by W. Cooley, Joe Peyton, W. E. Arnold, H. E. Christie and F. M. Murchison.

Tex., Gilmer.—The Gilmer State Bank is reported incorporated with \$25,000 capital by W. W. Sanders, R. L. Mattox, F. L. Futrell and others.

Tex., Oakwood.—The First State Bank of Oakwood is reported chartered with \$10,000 capital by J. F. Bell, Robert Maybee, J. W. Barton and others.

Tex., Pecan Gap.—Official: The Pecan Gap State Bank chartered; capital \$10,000; incorporators and directors, W. E. Weldon, C. H. Weldon, H. L. Graves and Sam Prim, all of Ladonia, Tex., and W. J. Bartley, Pecan Gap, Tex.

Tex., San Antonio.—Official: The International Fiduciary & Security Co., Hicks Bldg., incorporated; authorized capital \$100,000, with \$80,000 paid in; surplus \$500; G. B. Mitchell, president; C. J. Ward, vice-president and treasurer; W. J. Harvey and C. V. Blackard, vice-presidents; H. H. Hyde, secretary; Blackard & Booth, general counsel; business: general fiduciary, depository, real estate, loans, etc.

Tex., San Marcos.—The Hays County Abstract Co., capital \$10,000, has made application for charter. Incorporators: Will G. Barber, president; C. J. Crabb, vice-president and general manager, and B. Fitzgerald, add. secretary and treasurer.

Tex., Spur.—Official: The Spur National Bank, capital \$100,000, organized; directors, R. V. Colbert, Stamford, Tex., president; C. A. Jones, Spur, Tex., vice-president; W. G. Sherrod, Spur, Tex., cashier; E. P. Severson of New York, F. S. Hastings, P. P. Berthelot, W. T. Andrews, A. J. Swenson, all of Stamford, and R. C. Forbes of Afton, Tex. C. G. Chandler is assistant cashier.

Va., Rosslyn.—The Interstate Audit Co., capital \$10,000, is reported incorporated by P. W. Robertson, president, Washington, D. C.; J. C. Ridgway, secretary and treasurer, Washington, D. C.; R. Gordon Finney, Rosslyn, Va.

W. Va., St. Albans.—The First National Bank of St. Albans has been authorized to begin business; capital \$25,000; C. J. Pearson, president; M. W. Stark, vice-president, and R. C. Sweet, cashier.

NEW SECURITIES.

Ala., Hayneville.—Farson, Son & Co. of Chicago are reported to have recently purchased \$6500 of 6 per cent. Lowndes county jail bonds.

Ark., Pine Bluff.—Jas. Gould, County and Probate Judge of Jefferson county, writes that he has been elected financial agent to sell \$1,000,000 of bonds of Plum Bayou Drainage District.

Ark., Ravenden Springs.—Official: \$5000 of 6 per cent. district school building bonds have been authorized; denomination, \$500; maturity, one each beginning January 1, 1912; issue date when sale can be made. Address W. T. Fry and J. L. Witt.

Fla., Jacksonville.—An official letter denies the report that city contemplates issuing \$8000 of additional water works bonds. The letter also says that no bonds can be issued until after the Legislature of 1911 meets and authorizes the city to do so, after which time it is the intention of the city to bond for at least \$1,000,000 for drainage and street improvements. Wm. S. Jordan is Mayor.

Fla., Marianna.—Official: December 21 city voted \$10,000 of 5 per cent. 20-year water-works and electric-light-plant improvement bonds; denomination \$1000. Address F. G. Merritt, treasurer. John Milton, Jr., is Mayor.

Fla., West Palm Beach.—Official: Bids will be received until noon February 10 by the Commissioners of Palm Beach county for any part of \$200,000 of 4½ per cent. 30-year road-improvement bonds. Address F. E. Fenn, clerk.

Ga., Atlanta.—February 15 the election to vote on \$1,350,000 of municipal improvement bonds will be held. Robt. F. Maddox is Mayor.

Ga., Homerville.—Reported voted: \$8000 of schoolhouse bonds.

Ga., Jackson.—Reported defeated: \$20,000 of Butts county road and bridge bonds.

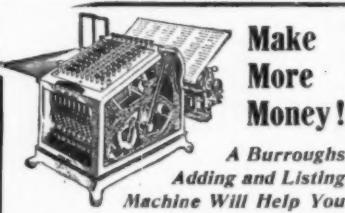
Ky., Frankfort.—Reported that application is to be made to the Legislature to authorize \$1,000,000 of bonds to pay off the floating debt of the State.

La., Amite City.—Reported that on January 22 an election will be held to vote on \$6000 of city hall bonds.

Mo., Chillicothe.—Bids will be received by Halsey L. Spence, City Clerk, until 7 P. M. February 17 for \$50,000 of 5 per cent. electric-light bonds.

Miss., Ellisville.—Reported that \$20,000 of sewer bonds have been voted.

Miss., Greenwood.—Official: Bids will be received until February 7 by W. T. Chapman, County Treasurer, for \$100,000 of 5 per cent.



It automatically adds and lists all sorts of figures, fractions, decimals, feet and inches, pounds and ounces, etc. You simply press the keys and pull the handle.

It relieves you of all routine figuring; gives you time to think out new selling plans; enables you to know that your accounts are right, so you can push the money-making departments of your business to the limit. We make 65 different styles. Any one you may try and test in your own office at our expense. Write at once for special information about Burroughs uses in your business.

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80 Burroughs Block
DETROIT, MICHIGAN

878A

30-year Le Flore county bridge bonds; dated January 3, 1910; denomination, \$500 each.

Mo., Carrollton.—Bids will be received until February 5 by E. E. Farnham, secre-

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Dated Dec. 17, 1909 Due Serially Jan. 1, 1912, to Jan. 1, 1924

Principal and Semi-Annual Interest (Jan. 1, July 1), Payable at American Trust and Savings Bank, Chicago (Trustee), or Guaranty Trust Co., New York.

Bonds maturing January 1, 1918, and thereafter, are callable at 105 and interest on January 1, 1911, or on any interest date thereafter on 60 days' notice.

DENOMINATIONS, \$100, \$500, \$1000

SECURITY.—These bonds are a first mortgage on all of the property owned by the Company, including valuable water rights, entitling the Company to first storage appropriations for 275,000-acre feet of water per annum; all rights of way, canals and reservoirs, Lake Francis, being 18 miles in circumference, having a storage capacity of 170,000-acre feet; Laughlin and Dry Fork reservoirs, estimated to have a combined storage capacity of 70,000-acre feet, giving a total storage capacity of 240,000-acre feet, value at \$4,000,000. Further secured by settlers' contracts placed with the American Trust and Savings Bank, Chicago, Trustee, these contracts being first mortgages on their lands and placed with the Trustee at a ratio of \$148 of contracts to every \$100 bonds issued.

LOCATION.—The land now to be irrigated comprises a tract of 70,000 acres lying in the central part of Teton county, Montana, just east of the main ridge of the Rocky Mountains.

There are two lively towns in this district, Conrad and Valier. Conrad contributes the third largest amount of freight receipts of any town on the Great Northern Railway in Montana. The Great Northern Railway and the Montana Western Railway run through the district and furnish convenient transportation for the entire tract.

LAND VALUES.—As this farm land has an earning capacity of \$20 to \$40 per acre per annum when irrigated, a conservative estimate places the value at from \$75 to \$100 per acre; thus the security is from three to four times the amount of bonded indebtedness, which is limited by the Trust Deed to \$25 per acre.

Further information, Engineering Report on Water Supply, Legal Opinion, etc., may be had on request.

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STEVENS LUMBER CO., KERSHAW, S. C.
January 16th, 1909.

Gentlemen:

In reply to your favor of the 14th inst., requesting our opinion of Victor Balata belting, we take pleasure in stating that we have used this belting for several years past and it is unquestionably the best we have ever used on our machines.

After using a number of the best known brands of leather belting, we finally gave the Balata a trial, and are now using it in every possible position in our plant, and believe that our belting expense has been reduced at least 50%.

It has been our pleasure to recommend this belting to a number of our friends in the lumber business, and, after trying it, they are very enthusiastic in their praise.

Yours truly,

Stevens Lumber Co.

We have hundreds more testimonial letters from American plants attesting the economy of Victor-Balata Belting.

One Word of Warning:

Remember in buying Balata Belting to insist on VICTOR-BALATA.

Other belts, not adapted to American Transmission, are on the market.

VICTOR-BALATA is the only Balata belt on the market which has an AMERICAN RECORD OF SUCCESS.

Accept no substitute.

New York Leather Belting Co.
SCIENTIFIC BELT MAKERS.
51 BEEKMAN ST. NEW YORK. 44 FRANKLIN ST. CHICAGO.

MANUFACTURERS' RECORD.

tary Board of Education, for \$50,000 of 1 per cent. 5-20-year school bonds.

Mo., Moberly.—Reported that \$100,000 of 5 per cent. 10-20 year water-works bonds have been purchased at 104.075 by Woodin, McNear & Moore of Chicago. J. F. Curry is City Clerk.

N. C., Asheville.—Official: Bids will be received by J. E. Rankers, chairman, until II A. M. February 8 for from \$45,000 to \$50,000 of 4½ or 5 per cent. 20-year Buncombe county bridge bonds; dated March 1, 1910.

N. C., Charlotte.—The question of holding an election in Mecklenburg county and the city of Charlotte to vote on \$300,000 of city and road bonds is reported under consideration. T. W. Hawkins is Mayor.

N. C., High Point.—Reported that Season, good & Mayer of Cincinnati have been awarded \$30,000 of 5 per cent. 30-year water and sewer bonds at \$1100 premium.

N. C., Nashville Township, P. O. Rocky Mount.—Bids will be received until 8 P. M. February 6 for \$20,000 of 6 per cent. Nashville township road bonds. Address George N. Bissell, chairman Board of Supervisors, Nashville, N. C., or Bunn & Spruill, attorneys, Rocky Mount, N. C.

N. C., Jacksonville.—J. W. Burton is reported to have purchased \$40,000 of 5 per cent. 30 year Onslow county refunding bonds.

N. C., Rockingham.—Reports state that the \$15,000 of 5 per cent. 30-year Beaver Dam township road bonds were purchased by the Farmers' Bank of Rockingham.

N. C., Sanford.—February 8 an election is to be held to vote on \$25,000 of sewerage bonds.

N. C., Tarboro.—Reported that bids will be received until 7:30 P. M. February 1 by J. A. Weddell, Town Clerk, for \$20,000 of 30 year water and light bonds; interest not to exceed 5 per cent.

Okla., Altus.—Official: February 26 an election is to be held in Jackson county to vote on \$100,000 of 5 per cent. courthouse and jail bonds; maturity, 1930. If election carries, bonds will be sold to Speer & Dow of Fort Smith, Ark.

Okla., Broken Arrow.—All bids received January 10 for the \$37,000 of 5 per cent. water-works bonds are reported to have been rejected.

Okla., Durant.—Official: Bids will be received until January 18 by W. S. Shannon, City Clerk, for \$10,000 of 5 per cent. bridge, \$20,000 of light and \$20,000 of water 6 per cent. 20-year bonds.

Okla., Edmond.—Official: A. J. McMahon has purchased \$25,000 of 6 per cent. sewer, water works extension and city hall bonds; date, December 1, 1909; maturity, December 1, 1931. Bonds were voted November 30, 1909, J. E. Thompson is Mayor.

Okla., Lawton.—Bids are to be opened January 24. It is stated, for \$125,000 of public improvement bonds. Address W. R. Julian, City Clerk.

Okla., Marietta.—Reports state that A. J. McMahon of Oklahoma has been awarded at \$1000 premium, \$75,000 of 5 per cent. 10-20-year Love county courthouse and jail bonds.

Okla., Oklahoma City.—Bids will be received by Bob Parman, City Clerk, until 5 P. M. January 31 for \$150,000 of water-works, \$50,000 of incinerator and \$10,000 of public building 5 per cent. 25 year bonds.

Okla., Walter.—Official: Bids will be received until January 20 for \$57,000 of water-works, \$25,000 of sewer and \$70,000 of electric-light plant 5, 5½ or 6 per cent. 20-year bonds; denomination, \$1000; dated January 15, 1910; maturity, January 15, 1930. Bonds voted December 14, 1909. Address M. C. Smith, City Clerk.

Okla., Purcell.—An official letter says that McLain county is about to call an election to vote on \$85,000 of courthouse and \$80,000 of bridge and road-improvement bonds.

S. C., Columbia.—January 25 an election is to be held to vote on \$20,000 of 5 per cent. 20-year school bonds of school district No. 12, Waverly precinct. S. E. Powell, D. W. Robinson and W. F. Waltes, trustees.

S. C., Glenn Springs.—Bids will be received by Nicholls & Nicholls, Spartanburg, S. C. until noon February 12 for \$4000 of 5½ per cent. 10-20-year bonds of Glenn Springs School District No. 82; R. H. Smith, J. M. Williams and J. C. White, trustees.

Tenn., Centerville.—S. A. Kean & Co. of Chicago are reported to have purchased at par \$45,000 of 4½ per cent. 5-20-year Hickman county funding bonds.

Tenn., Gainesboro.—Official: December 21 Jackson county authorized \$150,000 of 4 per cent. 20-year Tennessee, Alabama & Kentucky Railroad Co. stock; date of issue subject to completion of road; maturity, 20

years (County Court to decide whether this shall be paid in 5, 10, 15 and 20 years). Address T. M. Gallbreath, Tennessee Railroad Gainesboro, Tenn. G. Lee McGlasson is County Clerk.

Tenn., Knoxville.—Voted: \$50,000 of public park bonds.

Tenn., Morristown.—Reported voted: \$40,000 of sewer bonds.

Tenn., Rogersville.—Official: Bids will be received until 1 P. M. January 28 for \$40,000 of 4½ per cent. Hawkins county road and bridge bonds; denomination, \$1000; dated August 1, 1908; maturity, \$1000 due in 1950 and \$3000 each year thereafter until the \$40,000 are paid; bonds voted August 8, 1907; J. R. Sanders, secretary Board of Commissioners, Hawkins County.

Tenn., Rutledge.—An official letter says that the County Court of Grainger county has appropriated \$100,000 for building macadam roads. Bonds will be issued soon and placed on the market; interest, 5 per cent.; maturity, 30 years; denomination, \$1000 each. W. G. Clegg is County Judge and J. M. Grove County Clerk.

Tenn., Austin.—The Attorney General has approved the following securities: \$4000 of 5 per cent. El Campo independent school district bonds; \$5000 of 5 per cent. Comanche sewer bonds; \$17,000 of 5 per cent. Waxahachie water-works bonds; \$1995 of 5 per cent. Live Oak county bridge bonds; \$1999 of 6 per cent. Lancaster water-works bonds; \$11,500 of 5 per cent. 10-20-year Gaines county common school district No. 1 bonds; \$800 of 5 per cent. 10-20-year Houston county common school district No. 57 schoolhouse bonds; \$10,000 of 5 per cent. bonds of Hardin county common school district No. 17; \$5000 of 5 per cent. 10-20-year Mexia school building bonds.

Tenn., Roanoke.—An official letter says there is pending in Council a proposition to submit the question of a \$800,000 bond issue for various city improvements.

Tenn., Suffolk.—Official: At a meeting of the Town Council held January 13 a resolution was introduced asking the State Legislature to allow the town to issue \$50,000 of bonds. Bonds will not be for sale until the middle or latter part of the year. John H. Norfleet is Mayor.

W. Va., Huntington.—Application is to be made to the City Council, it is stated, asking that an election be held to vote on \$150,000 of paving and \$100,000 of sewerage bonds.

W. Va., Kenova.—Edmund Seymour & Co. of New York are reported to have purchased \$4000 of 5 per cent. 15-30 year street-paving bonds.

W. Va., Keyser.—The question of holding an election to vote on \$20,000 of water bonds is reported under consideration. R. A. Welch is Mayor.

At Corpus Christi, Tex., bids will be received until noon February 18 for \$140,000 of 5 per cent. 10-20-year sewer bonds. *Further particulars will be found in the advertising columns.*

At Spotsylvania Courthouse, Va., Spotsylvania county will sell at public auction at noon March 7 \$20,000 of Courtland District and \$20,000 of Chancellor District 4½ per cent. road bonds. *Further particulars will be found in the advertising columns.*

At Brownwood—Well, Roth & Co. of Cincinnati is reported to have purchased the \$20,000 of water-works bonds.

Tex., Corpus Christi.—Official: Bids will be received until noon February 18 for \$140,000 of 5 per cent. 10-20-year sewer bonds. Address O. O. Wright, City Secretary.

Tex., Dallas.—Dallas county is reported to have sold \$100,000 of 4 per cent. road bonds as follows: American National Bank, \$60,000; G. W. Owens, \$10,000; H. D. Lindsley, \$10,000, and J. C. Duke, \$10,000.

Tex., Eagle Lake.—Reports state that bonds for school building were recently authorized.

Tex., Flatonia.—Reported that application is to be made to the City Council asking that an election be called to vote on bonds for public improvements.

Tex., Kendleton.—Reported that \$2000 of bonds for school building have been voted.

Tex., Merkel.—The Commonwealth National Bank of Dallas is reported to have purchased at par \$25,000 of 5 per cent. 20-40-year water-works bonds.

Tex., Needville.—A \$1000 bond issue is reported voted for school.

Tex., Palestine.—An official letter confirms the report that bids will be received until January 24 for \$18,000 of 4½ per cent. fire-station bonds; denomination, \$500; dated January 3, 1910; maturity, January 3, 1930; bonds voted November 20, 1909. S. P. Allen is City Secretary.

Tex., Richmond.—Reported that \$150,000 of Fort Bend county road bonds have been voted.

Tex., Rhome.—Reported voted: \$7500 of school-building bonds.

Tex., Rotan.—Official: Voted: \$10,000 of city hall and \$3500 of street improvement 5 per cent. 20-40-year bonds; city will pass final order for issuing on January 20; bids expected to be asked in about 40 to 60 days; denomination—city-hall bonds, \$1000 each; street-improvement, \$500 each; bonds voted January 6, 1910. Address J. C. Kirby, Mayor.

Tex., Waco.—Reported that \$150,000 of 5 per cent. 20-20-year bonds of Glenn Springs School District No. 82; R. H. Smith, J. M. Williams and J. C. White, trustees.

Tenn., Centerville.—S. A. Kean & Co. of Chicago are reported to have purchased at par \$45,000 of 4½ per cent. 5-20-year Hickman county funding bonds.

Tenn., Gainesboro.—Official: December 21 Jackson county authorized \$150,000 of 4 per cent. 20-year Tennessee, Alabama & Kentucky Railroad Co. stock; date of issue subject to completion of road; maturity, 20

years (County Court to decide whether this shall be paid in 5, 10, 15 and 20 years). Address T. M. Gallbreath, Tennessee Railroad Gainesboro, Tenn. G. Lee McGlasson is County Clerk.

Tenn., San Angelo.—All bids received January 3 for the \$15,000 of 5 per cent. 20-40 year central fire-station bonds, it is reported, were rejected.

Tenn., Terrell.—The \$10,000 of water-works and light-plant improvement bonds, recently voted and approved, will, it is reported, be offered for sale as soon as they can be printed.

Tenn., Amherst.—W. E. Sandidge, County Clerk, writes that no bond issue is contemplated at present.

Va., Bedford City.—W. R. Abbott, Jr., is receiving bids for \$100,000 of 5 per cent. 10-20-year hydro-electrical power-plant bonds.

Va., Big Stone Gap.—John Nuveen & Co. are reported to have purchased \$30,000 of 5 per cent. 30-year sewer, street, jail and road bonds.

Va., Norton.—An election is to be ordered, to be stated, to vote on \$20,000 of sewer, 25-year of street-improvement and \$15,000 of city hall bonds.

Va., Pocahontas.—Farson, Son & Co. of Chicago are reported to have recently purchased \$55,000 of 5½ per cent. 30-year refunding street, school and sewer bonds.

Va., Roanoke.—An official letter says there is pending in Council a proposition to submit the question of a \$800,000 bond issue for various city improvements.

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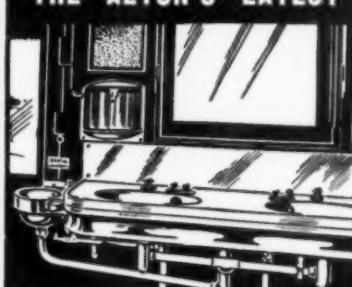
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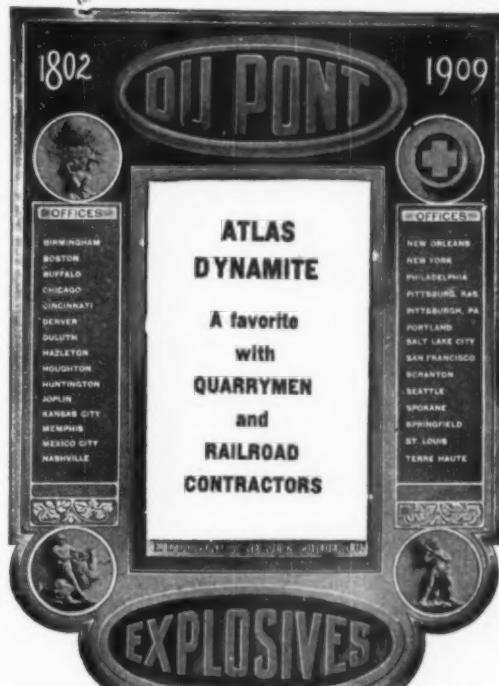
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WANTED—Salesmen calling on power-plant trade to handle small line of steam specialties for everyday use, by established manufacturing concern with reputation for high-grade material; liberal commissions to energetic reliable men. Address W. T. Jameson, 109 Surrey Rd., Mansfield, O.

SALESMEN calling on the hardware or manufacturing trade to carry as side line our line of spirits turpentine and wood turpentine. Address National Linseed Co., Cleveland, Ohio.

WANTED—High-grade, experienced salesman to travel for electrical supply house; must be a hustler and have thorough knowledge of the supply business; one with acquaintance in Southern States preferred. Address, stating experience and reference, Box 201, New Orleans, La.

LIVE-WIRE SALESMEN calling on manufacturers' trade; large profits; small samples; quick sales. Fairfax Refining Co., Cleveland, Ohio.

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ENERGETIC REPRESENTATIVE wants well-known manufacturer's account for Chicago; personal and financial references; salary or commission. Address No. 558, care Manufacturers' Record.

I WISH to correspond with a firm manufacturing a good building material who requires the services of a general traveling representative to call on architects and sell their product through dealers throughout the U. S. Address No. 569, care Manufacturers' Record.

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WANTED—Position as superintendent of oil mill by one who is thoroughly competent and can give best of references; have erected and operated gas engine and power gas producer and steam engines. Address No. 566, care Manufacturers' Record.

TECHNICALLY and practically trained engineer wants change; experience as chief draftsman and superintendent on steam, hydraulic and electric machinery; terms moderate. Will good management, system, energy and ability benefit you? Or if you want to manufacture promising specialties, address No. 559, care Manufacturers' Record.

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WE REQUIRE a competent foreman for our foundry near Cincinnati, capacity about 8 tons daily, producing agricultural machinery and some lamp castings. The successful applicant must have had previous experience as a foundry foreman, and in applying should state age, previous experience, where at present employed and salary desired. Address No. 555, care Manufacturers' Record.

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